

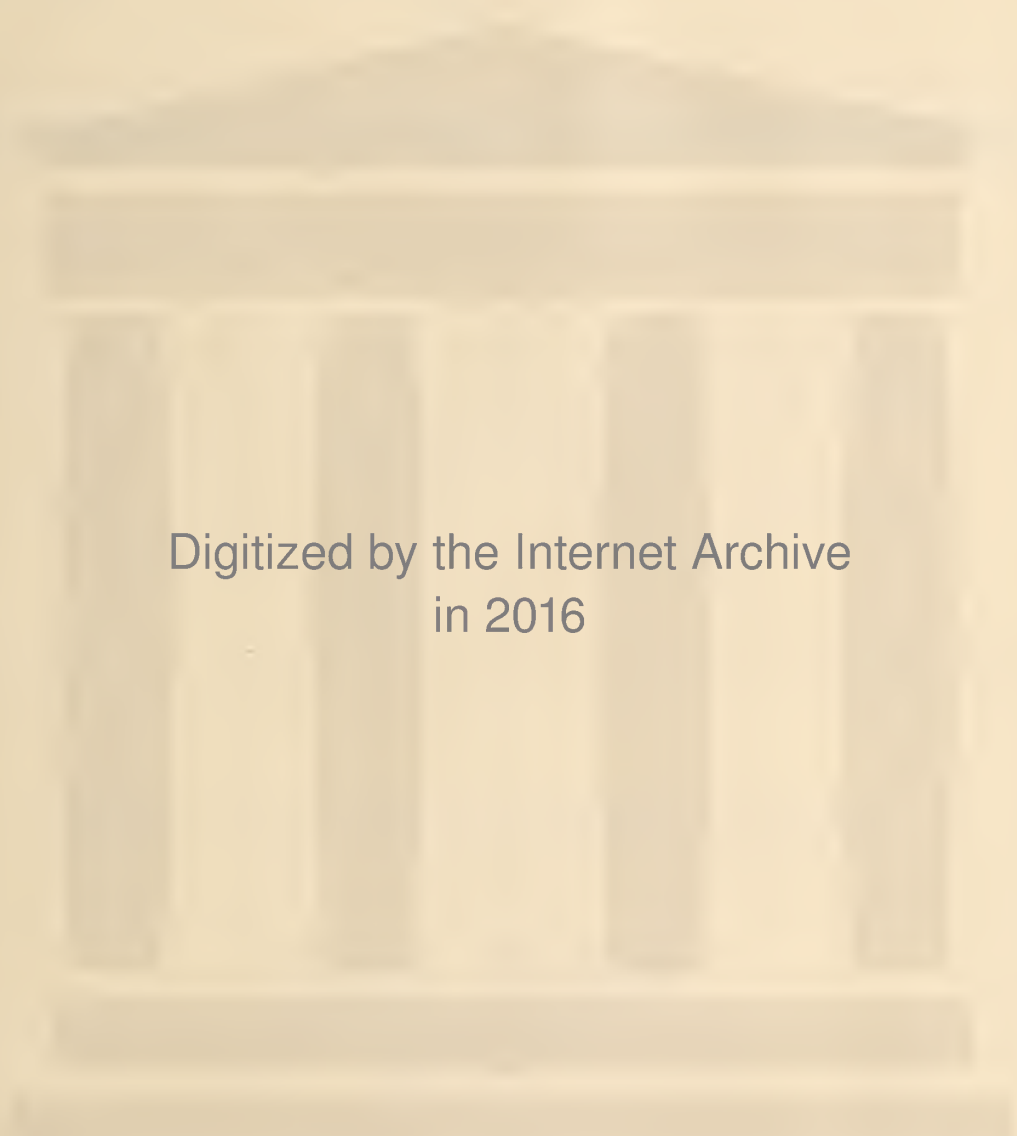
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VOLUME XXXIV

OKLAHOMA CITY, OKLAHOMA, JANUARY, 1941

NUMBER 1

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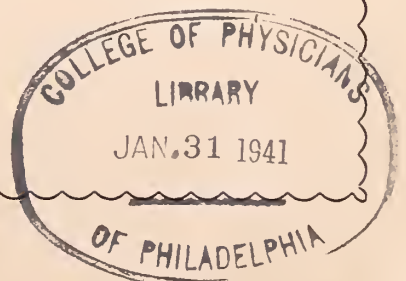
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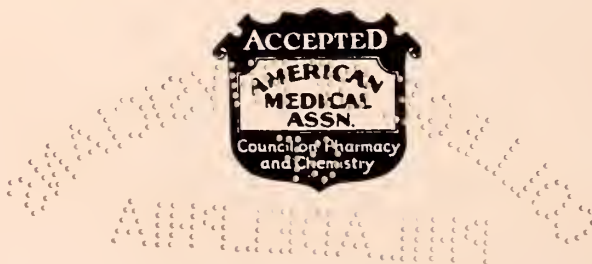
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THE JOURNAL

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NUMBER 1

Diagnostic Points In Rectal Cancer*

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Rectal cancer untreated has a one hundred per cent mortality and makes up five per cent of the total cancer deaths. Fortunately an awakening interest in the diagnosis of intrarectal lesions, the more general employment of the proctoscope, increasingly effective methods for visualizing the interior of the large bowel by roentgen-ray have made it possible to detect the presence of malignant tumors of the rectum and colon and their precursors in a stage when surgical management can offer considerably more optimism than in the past.

Moreover, the existence and characteristics of the various benign tumors which may be found in this portion of the bowel are now sufficiently recognized that a differential diagnosis is possible before surgery rather than following it.

It is an interesting fact that intestinal malignancy is found chiefly at the point of narrowing in the bowel where mechanical trauma occurs—the esophagus, the stomach, the splenic flexure of the colon, the recto-sigmoid canal and the anal canal. We have confirmed the observations of Tuttle and Rankin that more than 60 per cent of so-called rectal cancers originate in the recto-sigmoid and ten per cent of our series have been found in the terminal anal canal.

For practical purposes the benign tumors which by reason of frequency of occurrence, the necessity for diagnostic differentiation or possibility of malignant degeneration are of constant importance in our work, have been adenomas, adenomyomas and eleomas. The adenoma is by far the most common.

Buie found that two and a half per cent of all persons proctoscoped at the Mayo Clinic over a four year period had one or more polyps. The foreign body granuloma, eleoma, which is produced by the injection of certain oils into rectal tissues in the treatment of hemorrhoids is of high incidence in all communities in which this form of therapy is popular, and endometriosis involving the recto-sigmoid and rectum is either increasing or is being recognized more commonly.

Adenomas are encountered as occasional polyps, villous papillomas or in the condition known as multiple polyposis. Approximately 50 per cent of polypi indicated their presence by bleeding, discharge of pus or mucous, local irritation, or protrusion. While their primary nature is evident upon direct visualization, the ever present possibility of malignant degeneration compels their removal and microscopic examination as a routine procedure. The electro-surgical unit has simplified this procedure to the point where it can usually be performed safely without hospitalization of the patient. Villous papilloma is a slowly growing soft tumor with a large base which may cover a considerable portion of the rectal wall. The discharge of large amounts of clear mucous is a striking symptom associated with the condition. A low grade malignancy supervenes in many of these neoplasms after a period of years. Where the mass is small, it may be removed by fulguration although complete resection of the bowel is often indicated for larger growths.

Multiple adenomatosis is believed to be a familiar disease unless it is associated with

*Read before the General Assembly of the Oklahoma State Medical Association, Tulsa, May 7, 1940.

colitis. The rectum and sigmoid are chiefly involved and symptoms are always present including abdominal cramping, diarrhea, and

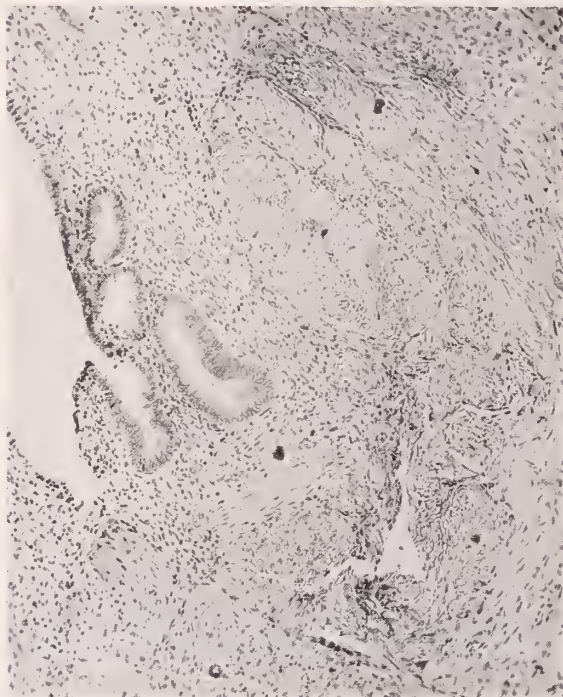


Fig. 1. Invasion of the wall in upper rectum by adenomyoma. In this patient biopsy was necessary to differentiate the lesion from sarcoma.

blood stained mucous. The tendency at this time favors colectomy for the condition because of its carcinogenic activity although Gabriel of London has suggested a more conservative management which includes removal of such adenomas as may be reached through the proctoscope and routine examination of the bowel over a period of years. If malignancy occurs, it is usually in the sigmoid or rectum and this portion of the bowel may be radically excised if and when indicated.

It is a fairly common finding to note a single small adenomyoma in the recto-vaginal septum in the course of a routine vaginal or rectal examination on a female. Occasionally the patient gives a history of pain during the menstrual period referred to this locality. More rarely large masses or small annular deposits have been observed to infiltrate the sigmoid and upper rectum and these may give rise to serious complications. Mucous and blood are late or absent as erosion through the intestinal mucosa seldom occurs, in which the lesion resembles sarcoma. The differential diagnosis often is quite difficult and biopsy may be necessary. Figure 1 demonstrates this fact. This is particularly true when the invasion results in stenosis and in my own experience and that of others, an-

nular adenomyomas have been resected on a mistaken diagnosis of cancer.

Some years ago the presence of firm, submucosa tumors became so common an observation in our proctoscopy of patients who gave a history of having received injections for hemorrhoids, that biopsy was performed in twenty-two cases of this kind and it was thus determined that the indurated, non-ulcerated, yellowish lumps were foreign body granulomas which resulted from the inability of the tissue to absorb oils present in the solutions used in the previous treatment. Wallace and I reproduced these tumors by experimental injection of various oils into human tissue and determined that mineral oil was the prime etiologic agent and that certain vegetable oils in large amounts would also produce this type of tumor. Grossly the eleoma suggests sarcoma of the rectum which also is a non-ulcerating growth; the clinical stricture which results when several eleomas coalesce is not unlike annular carcinoma in appearance when erosion of the surface epithelium occurs from obstipation. Where the diagnosis remains uncertain after examination of an individual giving the history of

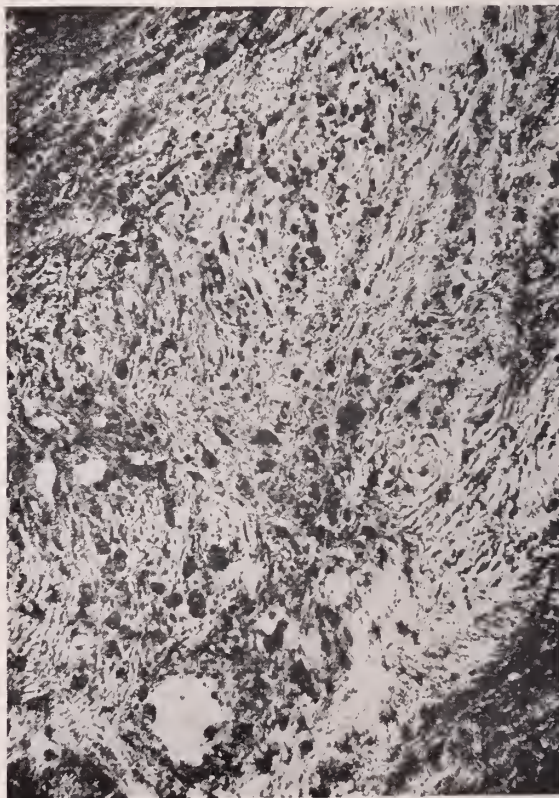


Fig. 2. Sudan III stain of excised tissue from eleoma (injection oil tumor).

submucosal injections, the use of a fat stain on a bit of excised tissue will reveal the presence of the injected oil. (Fig. 2.)

With the exception of sarcoma which occurs in the rectum in an incidence of 1 to 200 carcinomas, the malignant neoplasms of the rectum are basically epitheliomas and adenocarcinomas. As has been stated, the great majority of these tumors in their earlier stages are situated in the recto-sigmoid canal above the reach of the examining finger and in an area where the x-ray is of doubtful value. During this early period the sigmoidoscope is the only efficient and certain method of detecting their presence. In later stages, after the tumor becomes bulky, it does prolapse into the ampulla of the rectum and may apparently appear over-night if the digital examination has been relied on exclusively before this time.

While carcinoma of the bowel occurs chiefly in persons of mature years, the fact must not be overlooked that this disease is of possible occurrence in young persons. J. G. Kerr and I have recently reported the results of the analysis of one hundred consecutive cases of carcinoma of the rectum to determine the relative incidence in persons of early and later life. Seven per cent of these cases were under 30 and seventeen per cent under 36 years of age. The grade of malignancy present in the younger group was not materially different from those of older aged periods although colloid cancer was found more frequently and squamous cell cancer less frequently. Because the tumors themselves were apparently not intrinsically more malignant, we must assume that the earlier spread of lesions in younger individuals indicated by shorter than average duration of symptoms and earlier gross involvement of lymphnodes and neighboring structures, is due to a partial absence of defensive barriers in young persons. We have reason to feel that the gradual rise during the past fifty years in the number of young individuals reported as developing cancer of the rectum is a real increase and that etiological factors are at work which have lowered the former partial immunity of young persons to cancer, especially of the lower bowel.

The chief etiologic agent of cancer of the rectum and recto-sigmoid is the benign polyp or adenoma. Practically all writers now agree that the adeno-carcinoma passes through a benign stage at which time it is thoroughly amenable to local removal. It is my opinion that cancer in the anal canal, however, originates as the result of the long continued presence of some benign inflammatory lesion. In my experience 84 per cent of individuals with cancer in this locality presented evidence of some such attendant and preceding disease; the conditions apparently giving rise to the malignancy include fistulae, ulcer, hemorrhoids, anal papillae

and pruritus. Either adenocarcinoma or epithelioma may develop in the anal canal; adenocarcinoma may originate at the opening of a fistula tract above the dentate line or in one of the vestigial glands which Tucker and Hellwig of Wichita, Kansas, have described. Epithelioma, of course, is superimposed upon lesions of the dentate line, anus or perineal skin.

It has been indicated that "rectal" cancers are found chiefly in the recto-sigmoid canal and the anal canal. The characteristic syndromes of growths in these two locations are dissimilar and the symptoms of cancer of the ampulla of the rectum present a blend of the two syndromes. An analysis of a group of 25 cancers of the anal canal seen by us demonstrated that pain was the presenting symptom in 60 per cent, only six of the cases were definitely constipated and only sixteen had themselves noted passage of blood in sufficient amounts to alarm the patient. In spite of the accessibility of the lesion the average duration of symptoms in this group exceeded nine months.

An analysis of our cases of cancer located in the recto-sigmoid canal demonstrated that the average duration of symptoms was ten and one-half months and that the presenting symptom was constipation in 61 per cent, diarrhea in 22 per cent, gross blood seen in the stool in 11 per cent and tenesmus in 6 per cent. Upon questioning, 78 per cent of our patients admitted that they had seen blood at sometime during the course of the disease. It is quite important to note that cancer in this location, in fact a malignant tumor in any part of the left colon, will in more than one-fifth of the patients reveal itself by a constant, usually blood-stained diarrhea which may easily be mistaken for colitis or amoebic dysentery by the attending physician.

It is apparent that the diagnosis of rectal cancer in its early stages is complicated by a constant necessity for eliminating the presence of malignant degeneration in ancient lesions of the anal canal, in adenomas of the bowel and in the ulcers of chronic colitis. The earlier symptoms of anal and rectal carcinoma are concerned with the presence of such predisposing pathology plus certain additional signs, never pathognomonic in themselves, often vague, but sufficient to suggest to the alert physician the advisability of a careful, complete and expert rectal examination, supplemented, if indicated, by a colon ray. Probably one of the most constant of these very early signs is a sense of vague discomfort in the rectum which is not relieved by defecation. Bleeding may not be severe, and bleeding may arise from other

causes; however, all rectal cancers bleed at some stage of their existence. While pain is often present in anal cancer, intrarectal pain may not be depended upon as a diagnostic sign although discomfort in the lower back may offer a suggestive lead if coupled with other symptoms.

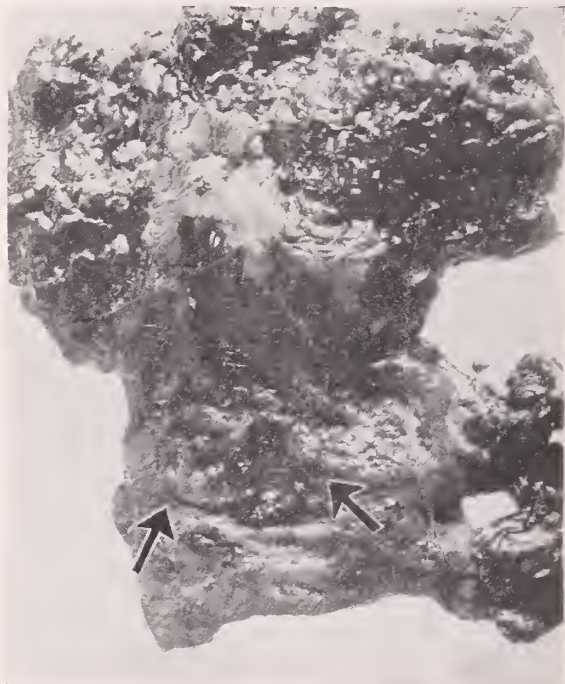


Fig. 3. Typical flat cancer rectum showing induration and abrupt change to normal mucosa.

Once the suspicion that a malignant tumor may be present exists in the physician's mind, palpation, inspection and biopsy make an accurate diagnosis thoroughly possible and upon this diagnosis the individual treatment of each case may be properly predicated, whether it be electro-coagulation, radiation or resection. The four cardinal points to keep in mind during the physical examination of the rectum are that a rectal cancer is an indurated lesion with an ulcerated surface, that it is a single growth and that the surrounding and adjacent mucous membrane

is so thoroughly normal in appearance that an abrupt line of demarcation is present at the junction of the mucous membrane and the tumor. Figure 3.

Comment: There is a curious and constant relationship between all the commoner rectal neoplasms; the thread that binds the group together is the ever present specter of malignancy. The benign adenoma of today may tomorrow contain the nucleus of cancer; invading endometriosis must be differentiated from sarcoma and, where extensive bowel infiltration has occurred, has in itself many of the characteristics of local malignancy; the factitial tumor, eleoma, presents a definitely canceriform picture.

It is apparent that accurate and comprehensive diagnostic measures are essential in the presence or possibility of any rectal neoplasm. The entirely laudable attempt to popularize rectal examinations on the part of the practitioner has at the same time deeply inculcated a peculiar dogma that this procedure may properly consist entirely of the casual introduction of the index finger. The fact that the majority of rectal tumors are in the upper rectal zones suggests that careful direct visualization of the entire rectum and recto-sigmoid is also indicated; the fortunate trend of opinion which has rescued biopsy from an undeserved obliquity affords an additional safeguard to the patient where the presence of malignancy or the degree of malignancy present are undetermined.

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A Discussion of the Treatment of Bladder Neck Obstruction*

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MUSKOGEE, OKLAHOMA

The literature is crowded with articles discussing, pro and con, different methods of approaching bladder neck obstruction, yet I am going to attempt a brief discussion of this subject in the time allotted.

Three classical surgical methods have been developed: first, the suprapubic; second, the perineal; and, third, the transurethral approach. The first two have been called perineal and/or suprapubic prostatectomy. More truly they are perineal and/or suprapubic prostatic enucleations, as they attempt only the removal of obstructing tissue, peeling out that portion which obstructs. Prostatectomy should be reserved for procedures totally removing the prostate gland. These two surgical methods have been argued by many of the masters in these techniques. Both are classical operations, each having its own merits and pitfalls. For the occasional surgeon, and especially those who have to work alone or with one assistant, the suprapubic method is much safer. Operative mortality has been reduced to a minimum by the different proponents of each procedure. Suffice it to say that the surgeon should pursue that approach to the bladder neck he is acquainted with, striving, in every detail, to get his technique as fool proof as is possible.

The transurethral approach has had a very stormy birth. Coming on the horizon when both of the other two methods were strongly advocated, it has been challenged on two sides. This method consists in removing the obstructing tissue with a wire loop, or hot or cold blade, through a sheath placed in the urethra. Numerous instruments have been devised, and at times confusion has existed as to different claims by one over the other.

The transurethral approach was attempted in the nineteenth century by Guthrie, Civiale and Bottini each working separately and apparently accomplishing very little clinically. Hugh Young, an American urologist, first used it with clinical success. Doctor

Young used an enlarged sheath, resembling the sheath of his cystoscope, simply inserting a circular blade to cut the tissue entrapped in the fenestra. This was termed the Young punch. Caulk added a cautery to this blade and called it the Caulk cautery punch. Brasch, Bumpus and Thompson, using a Brasch cystoscopic sheath perfected another instrument, cauterizing the tissue with needle penetration. This was another enlargement of the punch. Frischer, in 1932, advocated simple needle fulguration of the obstructing tissue, allowing it to slough. It was advised in some beginning hypertrophies to simply roll an electrode over the surface allowing it to cauterize and thus shrink this tissue. Stern, Davis, Kirwin, McCarty and others, using a high frequency current capable of cutting and coagulating under water, perfected two types of instruments, one with a closed fenestra, the other with an open fenestra. They used a small wire loop to cut the obstructing tissue and a larger wire loop to coagulate the bleeding points. I believe a clearer conception can be secured by classing all of these procedures under one name, transurethral approach, leaving the individual surgeon to choose the instrument he can get best results with.

The electrical side has seen many changes. It is quite a step from the simple cautery of Caulk to the tube and spark gap machines on the market to-day. All of these individuals were working towards the same end, that is under vision cutting away the obstructing tissue and providing better methods of drainage and hemostasis. The pre and post-operative care of these patients has developed markedly. Preliminary vasectomy to prevent epididymitis, which occurs in about 4 per cent of the cases is used. When this simple operation is done before placing an in-dwelling catheter in the bladder for drainage, or before operating on those in which preliminary drainage is unnecessary, it will in every instance prevent epididymitis. I have not had any cases of epididymitis since doing

*Read before the Section on General Medicine, Annual Session, Oklahoma State Medical Association, May 7, 1940, in Tulsa.

preliminary vasectomies routinely. Catheter drainage is far superior to suprapubic cystostomy for preliminary drainage. Occasionally a patient will be unable to tolerate an indwelling catheter, but this has not happened to any of mine. Better and better catheters are constantly being devised for drainage. Alcock, Foley, Caulk and Wappler have assisted in this feature.

Pathological Anatomy: The bladder neck in the male consists of the posterior urethra bounded by the internal and external sphincter muscles and including the prostate gland which is pierced by the ejaculatory ducts. This gland is enclosed in a very strong, poorly elastic capsule and partly surrounded by the fascia of Denonvillier. The prostate gland is very susceptible to engorgement, infection with fibrosis, hyperplasia or hypertrophy, and malignant degeneration. When it undergoes any of these changes the posterior urethra suffers, the act of urination is interfered with and thru this interference the trend of symptoms commonly called prostatism are developed. Thru this interference with urination the waterways are obstructed at the bladder neck, and the bladder musculature will be unable to empty the bladder. Thus a vicious circle is produced, more obstruction, more interference, more disturbance. We believe that the act of urination results from the trigonal muscle acting as a lever to pull open the internal orifice and at the same time there is a relaxation of both sphincter muscles and a spasm of the detrusor of the bladder forcing the stream thru the urethra. This trend of events occurs in perfect rhythm, supposedly from a distended bladder, by reflex. Any obstruction at the bladder neck will require more pull by the trigonal muscle to open the internal orifice, resulting in hypertrophy of this muscle. It also will require more and more pressure from the detrusor muscle resulting in its hypertrophy. Rents are made in this muscle resulting in diverticulae and trabeculae. A Bas Fond develops behind the prostate gland and the trigonal muscle is thrown into various stages of hypertrophy. All of these changes can be readily recognized thru cystoscopic inspection. This crippled bladder is unable to empty itself and residual urine increases in amount as these factors accumulate. Infection added here to the residual urine only aggravates the symptom complex. Sterile retentions may go along until enormous dilations of the bladder will result in overflow incontinence. These residual urines, accompanied with straining and increased pressure in the bladder, will overcome the muscle of Bell controlling the urethral orifice. This will cause back pressure on the upper primary tract, dilation and eventually

suppressed renal function. Uremia ushers the victim out.

Types of Bladder Neck Obstructions: The bladder neck may be obstructed at any age from numerous causes. First, the congenital valves of the posterior urethra. Second, acute infections of the posterior urethra. Third, pathological conditions of the prostate gland a. abscess, b. fibrosis or bar formation, c. hypertrophy or hyperplasia, and, d. malignancy. The pediatrician and general practitioner who cater to the treatment of children from babyhood to the pre-school age should become well acquainted with symptoms of bladder neck obstruction, as this occurs in young children, and when once developed is quite devastating in character. Here congenital defects are present in valve formations in the posterior urethra. These obstruct the urinary stream. If recognized early, good results can be secured by simply fulgurating or resecting these valves.

In acute posterior urethritis and prostate abscess the history will usually reveal specific infection. The age group varies from the teens to the forties. Rectal examination will usually enable one to establish the diagnosis of acute prostatitis or prostatic abscess. Treatment consists in eradicating the infection and promoting drainage. I have never had to resort to anything more drastic than massage, to drain a prostatic abscess, and ultimately cure the patient. The heavy prostatic capsule will protect the patient and prevent spread of the infection to the perineal tissues or rupture through the rectum.

The prostate gland is the chief offender in bladder neck obstruction. This pathological condition generally strikes the patient after the meridian of life is past, or in the sixth, seventh or eighth decade of life. These patients often will not recognize the advancing condition. If questioned closely the symptom complex began with a frequency of urination, nocturnal in type, which gradually increased, interfering with normal sleep and rest. Later comes hesitancy, slowness and splitting of the stream, decreased stream power, dribbling and overflow incontinence. Infection added to this will cause burning, pain, difficult urination, strangury and perhaps hematuria. Somatic symptoms, as pain in the back, in the perineum, down the legs and general aching over the body may be present. Constitutional symptoms as decreased appetite, constipation, hemorrhoids, headaches, lassitude, insomnia, failing vision, decreased water intake (hoping this will help his frequency), chills and fevers and finally if unrecognized he develops the symptoms of uremia in more detail. His sexual functions

will wane. Power of erection is lost or decreased, libido is decreased and he may wonder if it is not his age causing him to slow up. Oftimes these patients become introspective, developing various grades of melancholia and neuroticism.

Physical Examination: Any pathological condition obstructing the waterways will produce symptoms and pathological findings throughout the whole organism, as the urinary tract is a major excretory system and if interfered with will result in devastating effects far removed from the lesion. Bearing this in mind then the clinician and urologist should work co-jointly, the urologist becoming a fair clinician and vice versa. The headache may be uremic or come from the simple obstruction of the rectum and the resulting constipation, likewise with other symptoms as lassitude, insomnia, poor appetite, etc. We then, should consider the whole organism in the examination, noting especially the blood pressure; heart; blood evaluations; as r.b.c., w.b.c., urea, sugar and hemaglobin; teeth and throat for infection; abdomen for impacted feces or distended bladder; chest for hypostasis; genitalia for scrotal tumor, hernia or pin point meatus; the extremities for edemas and signs of circulatory failure and the skin for pallor, etc.

Physical Findings of the Urinary Tract: The urine must be checked for Ph, sugar, albumen, specific gravity and the presence of r.b.c., w.b.c. or bacteria. Digital rectal examination may reveal important information. An examination of the elderly male is not completed without a digital rectal examination. This should include palpation of the prostate gland, seminal vesicles and bladder neck. Note first the condition of the rectal mucosa, internal or external hemorrhoids, on inserting finger, note the tonicity of the rectal sphincter. With the finger in the rectum, locate the posterior urethra, trace this backwards and it will fuse with the sulcus of the prostate, tracing this back it will fuse with the bladder neck or the furthestmost point of the prostate. Emerging from the prostatic sulcus on either side is found a protrusion, the lateral lobes, note their size and consistency. Cancer of the prostate can be detected here in its earliest stages. Tracing the lateral lobes laterally note their borders and determine if any induration is in these tissues. Tracing the lateral lobes outward and upward the seminal vesicles should be felt. We should all become well acquainted with these anatomical parts. Nowhere else will the sense of touch render more valuable information. Carcinoma of the prostate gland develops in the posterior group of glands and will make itself known by areas of induration months and perhaps

years before it will produce symptoms of bladder neck obstruction. The prostate gland may be massaged and the seminal vesicles stripped, and their secretions inspected under the microscope.

Permit the patient to void. Here it should be remembered that a digital rectal examination may inhibit the bladder reflex some from pain and you get a false residual urine estimation, but the prostate can be better examined with a full and distended bladder as this pushes the prostate down where it can be felt easier. Pass a small soft rubber catheter and note the residual urine. If any is present this should be checked on other occasions to determine its constancy. If he persists in carrying above two ounces, further examination is needed to determine its cause. This calls for special instrumentation, the panendoscope or cysto-urethroscope, to visualize the bladder and bladder neck.

I would like to issue a warning on catheterizing the elderly male patient. In many instances, and especially the ones with bladder neck obstruction, the posterior urethra is distorted and elongated. This makes it difficult to pass a catheter to the bladder unless proper instruments are available. If a soft rubber catheter will not go easily, do not push it, or try to make it go. Marked damage can be done. Either get the proper equipment or send the patient to some one properly equipped. I have seen seriously ill patients as a result of an over zealous attempt to pass a catheter. Hemorrhage, lacerations of the urethra, epididymitis, acute retention and chills are a few of the complications. I know of no other place in the practice of medicine where gentleness is more in order, nor where it will be more appreciated. These men to begin with are afraid of being hurt.

Treatment: Carcinoma of the prostate gland is one of the most formidable pathological conditions to which man is heir. It is far more common than was previously thought. Two pathologists, working separately, have announced that they found it to occur in 18 per cent of men beyond the age of 60 years. They proved this by routine autopsies and serial section of the glands. Unless detected while within the prostate capsule, total prostatectomy offers about the only hope of cure. Total prostatectomy is a formidable operation, and can be accomplished only by the perineal approach. It is quite mutilating and is accompanied with a high surgical mortality, yet it offers these victims the best chance of permanent cure. We know that the operation for cancer of the prostate was never thought to be effectively treated by the suprapubic approach.

The best surgeons doing this approach did not claim curative results. There have been some claims by men employing the transurethral approach to effectively cure cancer of the prostate. I do not see how they can make such claims. I believe it is impossible to cut away all of the prostatic tissue even down to the capsule with a punch, wire loop or what not, much less cut away the capsule. I really think they would have a hard time kidding themselves into believing this. If the cancer has progressed beyond the capsule, the transurethral approach offers the most effective method of palliative relief, providing this cancer is symptomatic and obstructing the bladder. It is a great improvement over the older suprapubic cystotomy. Cystotomy made these poor patients a burden to themselves as well as everyone around them. Now we have a method that will cut this tissue away, and permit the patient space to void through. It goes without saying that tissue sections should be run on all resected tissue from this region. We never know positively until after operation that a given prostate is malignant or non-malignant. Deep x-ray therapy offers some palliative hope also. Most of these tumors are resistant to a high degree to x-ray therapy, still this should be given a trial. We can see the need here again for routine rectal examinations. We must recognize these cancers while they are within the capsule, otherwise these patients will continue to suffer a very high mortality. It has been suggested and very truly, I believe, that the reason for the greater number of bladder neck obstructions and cancer of the prostate is that the longevity of man has been materially increased and we can expect it to increase further, because all trends are pointing towards lengthening the life span.

Most urologists are agreed that bar formations and median lobe hypertrophies are best handled by the transurethral approach. Transurethral resection is the ideal way of handling these pathological conditions. The advocates of perineal and suprapubic approaches admit that a bar formation is very hard to handle effectively. It is very hard to determine what type of obstruction the patient is suffering from unless one can thoroughly examine the bladder neck. Much information can be secured with a posterior lens. It is mandatory to resection to be first a good cystoscopist, for one cuts here only that tissue which is acting as an obstruction. If one deviates too far forward in the urethra, incontinence will result, and cutting too far inward will result in bladder rupture or an undermined trigone.

Many of these men will not need a resection to clinically cure them. I believe that

one of the first requisites should be that the patient should carry some residual urine. We know what the older masters of the perineal and suprapubic techniques learned about this work, but at times we forget to apply it to the present day facts. They were very reticent to operate, the condition commonly called "prostatism sans prostate." This probably results from some posterior urethral irritation causing the symptoms of prostatism without any hypertrophy or perhaps a mild degree of fibrosis. It is debatable in my mind whether these men should be operated at all unless they carry some residual urine.

I would like at this point to outline the treatment of these cases and those who are potential obstructions carrying less than two ounces of residual urine with very few symptoms. Light prostatic massage, heat from a hot sitz bath or Elliott or diathermy, instillations and irrigations of the posterior urethra with mild silver proteins, gradual dilations of the posterior urethra and the administration of Testosterone propionate much material help has resulted from various biologicals as estrins when used on the female for the climacteric. It is now believed that man passes through the same phase as the climacteric in women. Working on this hypothesis estrins were tried but with little results. Testosterone propionate is synthetically prepared by Schering as Oreton and Ciba as Perandren. It is a hormone from the testicle. It reaches us in 5, 10 and 25 milligram ampoules. Using this drug I have been able to make some of these cases more comfortable. In one instance I was able to reduce the residual from six to less than one-half ounce. Its chief fault is the expense, but I believe that these patients should be given the privilege of refusing this form of therapy before picking them up and resecting them or operating them by the other two approaches. We should remember that a vasectomy will help some of these men. I don't know how, but they seem to do better after it is done. I routinely cut both vasa before inserting urethral catheter for drainage or sending them in to the hospital for transurethral resection. It is an office procedure and easily done.

Enlargement of the lateral lobes is a debatable subject. It is definitely harder, more tedious and more chance for hemorrhage in resecting a lateral lobe than a median bar or median lobe. This is the type of case in which the transurethral approach is challenged most. Frankly, I do not believe there is much difference except in massive lateral lobes where two and perhaps three sittings may be necessary in transurethral work. We well remember when the suprapubic surgeon challenged the perineal and vice versa. I be-

lieve we are coming to the same condition concerning the transurethral approach. Excepting the massive lateral lobes, which are a definite minority, I believe the best method for the patient would certainly consider the transurethral approach above the other two. We hate to keep these patients on the table very long, an hour is about the maximum, and it can be said that after an hour or thereabouts, if enough tissue is not removed, another sitting will have to be made. Another thing to consider is the condition of the patient. I believe that one can work on much sicker patients, and patients with less kidney or heart reserve with the transurethral approach than the other two, or it has been my observation. I like for the patients I attempt suprapubic prostatic enucleation on to be in pretty good condition, with good reserve.

Unfortunately they all are not in this condition. Thus transurethral work aids the man who in many cases would be a casualty if operated the other two ways. I know that I have resected many who would have been casualties with the other two approaches, and have lost only two with transurethral resection.

In review I would like to say that the general practitioner as a rule sees the patient with bladder neck obstruction first. This patient is his responsibility, and he certainly has violated a trust if he does not prepare himself to do routine digital rectal examinations, catheterize these patients and carry through the necessary steps to determine whether or not he should be a candidate for surgery. If he is not, then attempt to treat him logically as a medical case.

Vitallium for Nasal Skeleton Support

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Most everyone who does reconstructive work about the nose realizes that there are some particular disadvantages encountered in the use of cartilage. About six months ago we were discussing some of the problems that we had encountered, especially with pickled cartilage, at which time we decided to use vitallium for nasal skeleton framework.

It is well established that vitallium has the least irritability of all metals when buried in human tissue. Since the monumental work of Dr. Venable, vitallium has been used in many cases, both in bone surgery and in dentistry.

After agreeing that vitallium might be valuable in nasal plastic work, Dr. Drummond, working with Mr. Minter of the Hettlinger Laboratories, fashioned a plate for use in a case of saddle nose.

The first plate was made approximately 5 cm. long and the upright portion 2 cm. in

length; the dorsal portion was flared near the middle to a width of 2 cm. Multiple perforations were made in the metal believing that these would be more or less infiltrated in time. The upper end of the plate was slightly curved and sharpened so that it might fit under the periosteal flap. This plate was found a bit too large. After clinical trial we reduced the size of the plate and also added an opening in the upright post so that this might be fixed to the end of the septum. This allowed us to use in this particular plate the so-called "orthopedic stitch."

In one case it was found that the upper end of the plate did not set well against the frontal bone because we were unable to raise a periosteal chip. We therefore added to the plate a drill hole through which we drove a vitallium nail for fixation.

Preliminary Preparation: The first patient that we had at hand in which to use this plate was a case of saddle nose (syphilis). There was a large external scar which

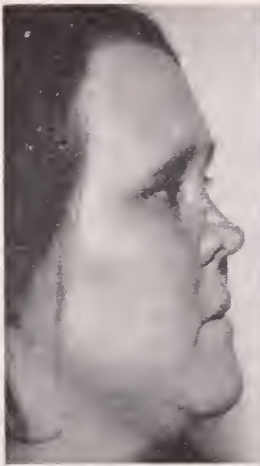


Fig. 1—Case No. 1. Pre-operative photo showing saddle nose with depressed adherent scar.



Fig. 2—Case No. 1. Post-operative photo showing improvement of dorsum of the nose.



Fig. 3—Case No. 1. Pre-operative x-ray showing absence of nasal bone.



Fig. 4—Case No. 1. Post-operative x-ray. Vitallium plate in place. (Note perforations in plate.)



Fig. 5—Case No. II. Pre-operative photo shows buckled and distorted cartilage.



Fig. 6—Case No. II. Post-operative photo shows result of vitallium support.



Fig. 7.—Case No. II. Post-operative x-ray picture showing vitallium plate in place. (Note nail used for fixation at upper end of plate.)

had been a perforation of the nose at the height of the disease. There was a large opening of the nasal septum approximately one inch in diameter. Before the operation the patient was submitted to photographs and x-rays. It was noted that the nasal bone had been destroyed.

Technique of Operation: Under local anesthetic a curved incision was made beginning on one side of the columella extending upward and curving outward a distance of about one inch. The skin over the nose was thoroughly mobilized together with the

elevation of the old scar on the side of the nose. A periosteal flap was lifted with a chisel for the insertion of the upper end of the plate. Mobilization was carried out down to the maxilla for the bed of the upright post. The plate was inserted very much as a cartilage graft is inserted. Closure was carried out with interrupted black silk sutures. One suture was passed through the nasal mucosa behind the columella incorporating the upright arm of the plate. The nares was packed with vaseline gauze. No external splinting was employed. The patient was kept in the hospital for a few days.

There was a minimum of swelling of the nose, no serous drainage appeared at the wound. There appeared about a week later some irritation of the lacrimal sac on the left side which promptly cleared after hot packs. The patient then told me that she frequently had a swelling and a discharge from the left lacrimal apparatus. (Chronic dacryocystitis).

Case No. 2 was one of bifid nose which had previously been treated by autogenous cartilage graft. The cartilage had buckled at the upper end. This was attended by con-

siderable scarring and infiltration of the nasal soft tissues. A vitallium plate was fitted for this case using the nail at the upper end for fixation.

Case No. 3: Congenital syphilis with saddle nose. A plate was fitted obliterating part of the depression on the dorsum. It was thought in this case that completely obliterating the angle on the dorsum of the nose would give an unnatural appearance to this round-faced girl.

Each of the cases that we have done has been examined carefully and measurements



Fig. 8—Case No. III. Full face pre-operative view showing flattening of nose.



Fig. 9—Case No. III. Pre-operative lateral view of nose showing loss of support along dorsum.



Fig. 10—Case No. III. Pre-operative lateral x-ray of skull.



Fig. 11—Case No. III. Post-operative full faced photo showing elevation of nasal dorsum and correction of epicanthus.



Fig. 12—Case No. III. Post-operative lateral photograph showing elevation of nasal dorsum and tip.



Fig. 13—Case No. III. Post-operative x-ray plate showing vitallium plate in place.

made previous to operation to determine the size of the plate needed. Photographs and x-rays were made to help in this determination.

Unlike the cartilage graft, the plate must be made before the operation. The technician tells us that he must heat the metal to 2700 degrees in order to shape it. So far with this technique we are unable to open the nose and have the plate made at the same time because it takes several hours for the fashioning of the metal.

The advantages of vitallium as we have used it may be summarized as follows:

1. The metal is non-irritable to human tissue (this fact has been established in other branches of surgery).
2. There is no absorption of the metal.
3. No infection so far has been noted.
4. Hospitalization has been reduced to a minimum.
5. No chest operation is necessary as in the use of autogenous cartilage.
6. The plate may be tailored to measure in each case.

The disadvantages of vitallium:

1. The metal cannot be bent or moulded at the time of the operation.
2. The plate is somewhat harder to touch than cartilage. The patients state that it seems hard when touched with the finger tips.

Disadvantages of pickled cartilage:

1. Absorption takes place in some cases even in the absence of infection.
2. The supply is often difficult to maintain.

3. Curling and even breaking of cartilage sometimes occurs.

4. Infection is usually not well borne.

5. Aesthetic aspect must be considered.

Disadvantages of autogenous cartilage:

1. Chest operation necessary for removal of graft.
2. Hospitalization increased.
3. Cartilage may curl after insertion.

CONCLUSION

To date we have used a vitallium plate instead of cartilage in nasal skeletal support in four cases. So far we have encountered no infection and hence no drainage from any of the wounds. The illustrations and the x-rays give some idea of the appearance of these vitallium plates. We modified the plate several times as we saw need for it. So far we have not used it immediately following the division of the nasal arch for correction of traumatic deformity about the nose.

Time and further study will no doubt give us much more adequate information as to the use of this metal for nasal plastic surgery.

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The Management of Late Syphilis With Special Reference to Neurosyphilis*

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Realizing the magnitude of this subject, I do not propose to give a detailed study, but only to call attention to the basic principles of the management of late syphilis in relation to the individual patient, each of whom presents a separate problem. There is no doubt that the successful therapist, in this

stage of syphilis, is the one who can correctly and conservatively interpret the therapeutic needs of his patient in relation to his clinical and serological findings. To make a pathological differentiation between the early and the late stages of syphilis, it is necessary to call attention to the fundamental pathology which formulates the three stages of this disease.

In the early stage, the characteristic phy-

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biological response is identified by the uniformity of distribution of organisms, of lesions, and of immune reactions, each following a fairly well expected course and timed more or less accurately with reasonable certainty. The late stages of syphilis are characterized by a variable variety of pathological activity, occurring in unpredicted locations, with no reference to time, and involving almost any structure of the body, impairing its function to any degree from an imperceptible alteration to its complete destruction. The patient's immunological background is responsible for one patient's being highly resistant to this disease and capable of living a normal span of life, with no clinical signs of infection; while the lack of this ability in the next case allows the disease to produce a chain of ravages leading to complete disability. It is highly probable that the foundation of this background is either made or altered by the treatment given in the initial stage; and I feel that it is here that the physiological principles are formulated which account for the variable period of latency, and determine the course of the disease through the late stages. This mechanism which requires the presence of organisms in the system, even though it may be feeble, is sufficient to give a successful resistance to any new infection, and has a major role in furnishing the patient the ability to live successfully a longer or shorter time with his syphilis.

Once this stage has been reached, a biological cure becomes an improbability, and its achievement is more or less a therapeutic dream. If this biological cure, then, is impossible in our present state of therapeutic endeavor, what is the purpose of treatment? This is many fold. The first aim, as in all medical practice, is symptomatic relief. In most cases, this is well within reason and its achievement is fairly easy. The lesions are readily healed with little treatment, but observation has taught that relapse is the rule unless treatment is prolonged. The second aim is the restoration and maintenance of normal anatomy and with this, if possible, the return to normal function. When the realization of these aims is impossible, the imperative issue is to stop the pathological progress and to preserve the condition of status quo. If these problems are only partially solved, the progress made should be established, as far as possible, on a sound basis, leaving the general condition of the patient in a state of improved health for the remainder of his life. The serological progress many times becomes a secondary issue, and one of the outstanding mistakes in the treatment of late syphilis is to allow the major point of interest to be focused upon

the serological findings, instead of upon the general clinical condition of the patient himself. The progress made with reference to these accomplishments is entirely dependent upon the structures attacked and the degree of damage produced by this invasion. The clinical yardstick is the only acceptable measure of therapeutic success in late syphilis, and the amount and type of treatment to be administered can only be determined by the study of the individual case. The final outcome of these several questions is dependent upon the general physical background of the individual, the extent and location of his pathology, and the presence or absence of complications, all correlated in his management with accurate clinical interpretations.

The management of the various types of late syphilis almost demands a special field in each case. The first of these is the problem of diagnosis and treatment of latent syphilis. This is an outstanding branch due to the great frequency with which it is seen. The total absence of all clinical signs on which to mark therapeutic progress, makes the management of this type of late syphilis an increasing difficulty. Clinical latency, then, is syphilitic infection unrecognizable without the aid of laboratory findings, and represents that long period of time frequently seen in this stage of syphilis where the relation between the host and the infecting organism is more or less balanced. To establish this diagnosis of latent syphilis, a searching examination is mandatory. The moment syphilitic disease is discovered by other than serological means, a clear cut history, or the birth of a syphilitic child, the period of latency ends. Altered spinal fluid findings demands special study and excludes the case from the group of latency. It is evident that, with the development of a finer diagnostic acumen, greater numbers of patients will be removed from this group and placed in the special fields of treatment. The beautiful example of this progress is the earlier diagnosis of cardiac syphilis with negative physical evidence, made with the electrocardiograph. The importance of this stage of syphilis is realized only when we consider that about one-third of allluetics seen fall into this class. The prognosis of the truly latent syphilitic, who receives the proper prolonged treatment, is not discouraging. The principal reasons for treatment are progression, relapse, and infectiousness. Progression in all syphilitic disease, after a time, is a usual rule, and relapses to an infectious state diminishes with increasing frequency during the first five years. The congenital transmission of syphilis is of major importance in the period of latency, demands a special chapter, and should be considered

with a degree of thoroughness not permitted in this discussion. After true latency has been established, the aim of therapy is no longer the accomplishment of a cure, as in early syphilis, but, as already mentioned, the arrest of progression and the prevention of the infection of others. The therapist may hope only to aid his patient to live with his infection in a true state of symbiosis for a normal span of life; and this is not improbable. To accomplish this, the choice of treatment and management is sometimes difficult. The art of practice is many times taxed to get the proper cooperation from the apparently well patient. This is usually done, however, when absolute frankness is maintained and simple explanations are made. Syphilitics are great questioners and have an uncanny memory for what is told them. In the usual latent case, treatment is begun with a heavy metal with the intermittent use of the iodides, and relatively more of these are given than in the treatment of early syphilis. The studies of the cooperative group indicate that better results are seen when this ratio is maintained. These studies further indicate that the results are about equal whether continuous or intermittent treatment is used. A rule acceptable to most clinics is—a year of continuous treatment followed by a year of intermittent treatment. Wassermann fast cases are handled in very much the same way, with the possible addition of fever therapy during the second year. Many times, we find the Wassermann to be reversed during the third to the fourth year, after a rest of prolonged degree. During this treatment period, the patient should receive from twenty to thirty doses of the arsenicals and fifty to sixty doses of bismuth, with potassium iodide usually given intermittently. The older cases well tolerate an occasional course of mercury. Short courses of the heavy metals are indicated during the third to fifth year. I do not feel that the serological progress of the case should alter this program, and the optimum of treatment should be given.

There are many special types of syphilis that could easily consume our discussion, but allotted time allows consideration only of the most important. From a death dealing standpoint, we can not help but give first place to cardiovascular syphilis. Our advancement in this field of syphilitic management is dependent upon the acuteness with which the early diagnosis is made, and it is becoming an accepted practice to make use of the electrocardiographic investigation in an effort to establish, if possible, the presence of cardiovascular involvement in the pre-clinical stage. There is no doubt that the therapeutic success is dependent upon this factor more

surely than in any other type of syphilitic management, and it is also a certainty that, in this field of therapy, the individualization of cases is necessary. The syphilologist should assuredly make use of free consultation with the internist in this phase of syphilitic disease.

Another type of visceral syphilis of outstanding importance is infection of the central nervous system. It has not been long since syphilitic involvement of the central nervous system was regarded as untreatable except by palliative measures. It is now seen to yield rapidly when managed with the newer methods of diagnosis and therapy, and it is not boastful to state that it can be mastered from the practical standpoint by any reasonably equipped and sufficiently interested physician. The advancement in spinal fluid examination and study alone has afforded practical diagnosis with an accuracy which was thought beyond reason a few decades ago. It is accepted, I think, that invasion of the nervous system probably occurs in nearly all patients with syphilis during the first year, but, in spite of this constant invasion, relatively few patients develop actual tissue involvement. If the protective mechanisms are so lacking as to permit real tissue damage, it may be detected by physical signs and symptoms almost as soon as it occurs. A diagnosis of a symptomatic neurosyphilis is made when the spinal fluid abnormalities are present with the absence of clinical evidence. It is evident, then, that this most important stage of neurosyphilis is distinguishable only by laboratory methods. This period exemplifies an outstanding demand and indication for the routine examination of the spinal fluid of all syphilitics where the disease is two years old. The importance of this routine procedure is further demanded by the fact that abnormalities of the spinal fluid precede by many years the appearance of clinical damage, and the potential parietic and tabetic can be pre-diagnosed in the early stages of his infection rather than when irreparable tissue damage has resulted from his syphilitic disease. If the patient is so fortunate as to have this information available for his care he may have his treatment so altered as to obviate the clinical signs and symptoms so familiar in the late neurosyphilitic. Once the nervous system is involved to a degree sufficient to produce clinical manifestations, definite types of central nervous system syphilis may be recognized. Many more or less elaborate divisions of these types have been outlined. The simplest and most practical is as follows: the interstitial type which involves the supporting structures of the brain and spinal cord; and the parenchymatous which repre-

sents the involvement of true nervous tissue. The two great divisions of this type are the tabetic and paretic forms, each having its own chain of symptoms and laboratory findings. The interstitial type may occur at any time during the course of the disease, but it is usually seen between the second and the fifth years. The parenchymatous form is usually later in appearing and is commonly noted from the seventh to the fifteenth year of infection. The management and observation of these various types of neurosyphilis forms the most fascinating chapter in all medical therapeutics. Before any treatment is begun it is necessary that a correct classification of the type of nervous system involvement be made. A detailed history, a physical examination and a full laboratory report on the blood and spinal fluid are required to fully acquaint the physician with all the evidence necessary, in order that he may select the method of treatment suitable for a particular situation. The management of asymptomatic neurosyphilis with minimal changes is little different from the routine treatment of the late uncomplicated case. When these changes have advanced to a degree of moderate abnormalities the plan is intensified, and usually a six months trial is given before checking results. It is here that the titre of the fluid Wasserman is used as a guide. When the improvement, either from the clinical or the laboratory angle, is slow, a full course of tryparsamide is added with the usual precautions, and in the exceptionally resistant case fever therapy is used. The duration of this plan is usually from two to two and a half years.

Where the definite tabetic and paretic formulae are encountered, it has been the experience that routine treatment does not bring desired reversals, and the more drastic measures are resorted to without delay. An intensified routine treatment is not neglected, but is supplemented at once by fever therapy. This is demanded due to the fact that syphilis in this stage is very destructive, and the pathological progress moves with a speed unseen in nearly all other phases of syphilis. The fever therapy used is usually malaria or typhoid vaccine. The hyperthermia, or electric heat cabinet, is effective, but hazardous, and its popularity is seemingly short-lived. There is no doubt that fever therapy definitely enhances the effectiveness of specific treatment, and I feel that the combination of these two is necessary for maximum therapeutic accomplishment.

The diffuse meningovascular neurosyphilitic presents such a variety of clinical pictures that it makes it difficult to outline more than a generalized type of management. The original pathology in this type of involve-

ment is primarily inflammatory, rather than degenerative, and its treatment is usually successful when carried out in an intensified routine manner. Drugs of high spirocheticidal value are called for, due to the speed of destruction sometimes seen. The once feared Herxheimer reaction is not noted as frequently in this form as was once taught but, as a safe rule, preparatory treatment is conservative and sound, fever therapy being added only late in the course.

When the definite tabetic is encountered with the characteristic clinical and serological evidence present, routine treatment alone is of little value. The blood-spinal fluid barrier is obviously not penetrated and, in most cases, progressive development is the general rule. There is an occasional temporary recession of symptoms only to be followed by the usual pathological advancement. The management, then, is started as an intensified routine type and supplemented immediately by fever therapy. Subdural treatment, using the Swift Ellis technique or Ogilvie's modification of this, is well tolerated and has an accepted place in the routine management of the tabetic. This subdural treatment is given in a series of about six doses at two week intervals, and the series may be repeated after two or three months if observation warrants. I feel that this treatment is imperative, especially in cases of primary optic atrophy. Mercurialized serum was at one time advocated, but has been promptly dropped. Repeated spinal drainage was also popularized a few decades ago, but is now discredited and has been abandoned as a type of therapy in all clinics. According to the conclusions of Stokes, Osborne, Moore, O'Leary, and a few others, repeated spinal drainage in the neurosyphilitic will reduce the cell count, but otherwise has no beneficial effect. This also has been my experience.

One of the saddest pictures in all medicine is the definite paretic, and when this characteristic picture of degeneration is encountered and is verified by the usual laboratory findings, drastic treatment is immediately called for. I do not think that we are permitted a trial at routine treatment because of the speed with which this destructive process moves. It is advised by Wile, Moore, and others that fever therapy be started at once where the physical condition permits, and in this practice I fully concur. The prognosis is entirely dependent upon the type and amount of destruction produced, and the presence or absence of complicating factors. As in the management of all debilitation, rest and general supportive care is an outstanding part of the treatment plan. I think that there is little doubt about the maximum benefits from fever therapy. I have made

extensive use of typhoid vaccine in these cases and find it on a par, as a method of producing fever, with malaria. It has many advantages, and can be given by any conscientious physician. I usually employ from ten to fourteen fevers, and follow this immediately by routine treatment with old arsphenamine.

When the treatment of the neurosyphilitic is terminated, the responsibility of the physi-

cian is not ended. He must remember that in all syphilis, relapse is the rule and the patient's only safeguard against recurrence is post treatment observation, both from a clinical and laboratory standpoint. Much responsibility of a medical and sociological nature is associated with the care of the syphilitic, and there is no doubt that the successful therapist is the one who can correctly correlate these many factors, interpreted and adjusted to the needs of the individual case.

Tuberculosis of the Genital Tract*

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This paper constitutes a review of the recent literature on "genital tuberculosis" accompanied by comments based on my personal experience. The material reviewed comprises four papers published in the Journal of Urology during the past two years. To this I have added other facts taken from the latest editions of text books written by Eisdendrath, Hinman, Cabot, Young, and Campbell, also the year books 1937, 1938, and 1939.

The term "genital tuberculosis" refers to involvement by the tubercle bacillus of the prostate, seminal vesicles, vas deferens, testicle and epididymis. It is agreed that the disease is due to a secondary focus elsewhere in the body, this lesion often being healed, quiescent and antedating by many years the lesion of the genital tract. The lungs are the most frequent seat of the disease, with the kidney and bone involvement next in order.

Incidence—Primary prostatic tuberculosis is rare, less than a dozen proved cases being found in literature. All writers agree, however, that in the presence of tuberculous epi-

didymitis, the incidence of prostatitis and vesiculitis is exceedingly high. Bothe, writing in 1927, collected a rare mass of statistics from various authors and found that in a series of many thousand autopsies upon patients who died from some form of tuberculosis, the genito-urinary tract was involved in 5.13 per cent. In a group of 907 cases of genito-urinary tuberculosis, 65 per cent showed evidence of an associated pulmonary lesion. Lowsley and Duff in 1930 reviewed an enormous mass of statistics. In a series of 52,070 autopsies, they found an incidence of 2.1 per cent of uro-genital tuberculosis. In 1933 Sweany reviewed this phase of the subject with great care. He states that genito-urinary tuberculosis is to be expected in about 1 per cent of autopsies for all conditions. While genital tuberculosis may attack the infant or the old man, it is most commonly seen between the twentieth and fortieth year when the entire genital system is in its most active stage. However, congenital tuberculosis of the testical, a placental transmission, has been described by Drischfield and Giraldes. Eisenstaldt lists a case of surgical tuberculosis of a boy three years old and

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in "perfect health," and quotes another case of Sussig's at 11 months. Kanotorowitz recorded 46 cases of primary testicular tuberculosis in 51 boys under 17 years old with genital tuberculosis. The apparent rarity of tuberculosis of the epididymus in boys is largely due to failure to recognize the condition. Unfortunately the early process of the disease is usually masked by hydrocele. The incidence of tuberculosis epididymitis in boys is highest before the age of 7.

In 91 cases of tuberculosis epididymo-orchitis in boys collected by Goodman, 42 were less than 2 years of age. The remaining 49 were between 2 and 15 years.

Pathogenesis—The paths travelled by the tubercle bacilli are confusing and conflicting. Some believe that they travel only in the direction of the secretory stream; others, whose opinion is equally as good, believe that they travel contrary to the stream. It has also been shown that the genital organs, like the kidney, can excrete tubercle bacilli from the blood stream under certain conditions. All observers seem to agree that trauma, whether this be due to actual violence or to chemical or bacterial (such as gonococcal) irritation, is an important determining factor.

Those who hold the view that tuberculosis first attacks the epididymis, explain its spread to the prostate and seminal vesicles by the way of either the canal of the vas deferens or the lymphatics surrounding this structure. It is generally conceded that the earliest lesion in the epididymis is in the globus minor, or tail, of the organ which is in the beginning of the vas deferens. The lesion may be confined to the intertubular tissue, but generally originate within the ducts. In any event, "distortion and obliteration of the architecture quickly follow." Eventually, the entire epididymis becomes involved but extension to the testicle is not the rule, and may not occur even after many years of contact with the tuberculous epididymis. In a series of 210 tuberculous epididymes, reported some years ago, 66 testicles were found to be affected.

Those who believe that the primary form lies in the prostate and seminal vesicles, believe that the bacilli reach the epididymis either through the deferential canal by means of a reversed peristalsis or through the lymphatic channels in a direction opposite of the normal secretory flow.

Blandini's experiments substantiate this view by placing the organism in the posterior urethra of an experimental animal, and recovering the bacilli in the epididymis within twelve hours. In 1912, Walker illustrated this dictum by tying off the vas deferens

previous to the injection of the bacilli; they still reached the epididymis, provided that the ligature did not include the sheath of the vas or any of the lymphatics running in the cord, but if the sheath of the vas and surrounding lymphatics were tied, few organisms were recovered in the epididymis. Walker has more recently repeated these observations in the human, using for material, cases dying from prostatectomy. He has made multiple sections from prostatic capsules, vesicles, cord and epididymis. By using appropriate stains, he demonstrated a dissemination of organisms through the lymphatics. In any event, the bacilli undoubtedly reached the organ first involved by way of the blood stream.

The second epididymis is frequently involved early. It is also recognized that if the diseased epididymis is removed, it will retard or prevent appearance of infection in the opposite side. It is probable that by removing this important source of infection, the already infected prostate and vesicles become less active and, therefore, less likely to spread the disease. There is no question but that ligation, or better still, resection, of the vas deferens on the opposite side will generally prevent appearance of tuberculosis in that epididymis. There is no case in which the epididymis was involved, did the vesicle on the same side fail to be affected.

Diagnosis—Diagnosis is largely presumptive and is made by the preliminary non-instrumental routine steps of examination (history, urinalysis, X-rays, urethragrams and general physical examination). The seminal vesicles, prostate, and membranous urethra are studied by rectal examination. Induration and irregularity are the characteristic findings, together with varying degrees of enlargement. Adhesions are usually present. The induration produced is nodular and firmer than that found in ordinary vesiculitis and prostatitis, and is sometimes hard enough to be confused with that of prostatic carcinoma. Aspiration of the epididymis will generally give enough fluid for microscopic examination and detection of the tubercle bacillus. The vas deferens should be outlined as far up as possible, and differential diagnosis may not be in the least difficult in certain cases. Induration, enlargement and nodularity of the organ, involving especially the lower pole, with but insignificant pain or tenderness, are among the chief diagnostic features. If, in addition to this, the corresponding vas is thickened and nodular, somewhat resembling a chain of beads, the evidence is strengthened. Most important of all, however, is the presence of a healed or active sinus, for, so far as we know, no other disease of the scrotum will produce this

particular condition. In certain cases, the presence of a hydrocele will so mask the scrotal contents that its removal is an imperative first step toward diagnosis. It must be remembered, however, that even the most expert may sometimes go wrong in the matter of diagnosis in scrotal conditions. He may be dealing with an epididymitis of an unusual type produced either by the gonococcus, a pyogenic coccus or the colon bacillus. It may even be a case of torsion of the testicle and the surgeon must be especially on his guard for those cases of tumor of the testicle, which, beginning in the epididymis, may present a most uncanny likeness to tuberculosis of that organ.

Treatment—Treatment of genital tuberculosis will depend largely upon what the surgeon believes to be a primary focus of the disease and is roughly divided into (a) radical surgical; (b) conservative surgical; (c) non-operative or medical. All three methods of treatment must take into consideration that genital tuberculosis is merely a local manifestation of general body conditions and that treatment is one in immunity.

Young is an advocate of radical surgery, though it is not devoid of danger . . . his mortality is 4 per cent. Conservative surgery is merely an epididymectomy, which is the present-day choice of the vast majority of surgeons. Prognosis, in the main, is favorable, and life may often be prolonged for years. The important point in this operation is to divide the vas deferens well beyond the internal inguinal ring over the bony pelvis. No fistula will result if this is done, whereas, if the vas is divided at the top of the scrotum, fistula is certain to follow. It is well known that even the most simple operation on a tuberculous patient may induce meningitis or miliary tuberculosis.

Dr. Barney, in his series of 300 cases, treated by conservative surgery, had a mortality of 2 per cent, these dying from systemic tuberculosis. In only two cases of his 300 operations, did the tuberculosis progress to the prostate and vesicles. This, in his opinion, proves that the primary genital focus lies not in the prostate, but in the epididymis.

There is a limited group of cases with tuberculosis of the seminal tract in whom radical surgery apparently gives better results than conservative or purely medical treatment. The cases may be largely divided into two groups: group one, those in whom clinically, the seminal vesicles and prostate are definitely involved with or without involvement of the epididymis, and group two, those cases of definite tuberculosis of the epididymis without clinical evidence of involvement of the vesicles and prostate. The results in cases where there is definite nodulation and involvement of the prostate and vesicles, or vesicles alone, without tuberculosis elsewhere in the body, by removal of the organs affected together with the epididymis give a high percentage of cures. The principal objection to radical surgery in these cases is the likelihood of persistent perineal sinus, which is rarely urinary, and only occurs in those cases where there has been rather advanced involvement of the prostate. Those cases in which the lesion is limited to the vesicles, promptly heal and urinary fistulae do not occur. Sinuses, when not urinary cause little, if any, inconvenience. Barney studied a series of 99 cases and found the prostate to be involved in 40 per cent within the first six months.

It has already been stated that as a corollary to surgery of the tuberculous, whether radical or conservative, hygienic treatment of the most intensive variety would be given, covering as long a period of time as possible. Besides the usual routine to details of diet, liquid intake, rest and exercise, this involves all that we know about heliotherapy and also tuberculin.

All urologists appreciate the formidable problems presented by metastases of such systemic diseases as tuberculosis. While the bacilli are the proved factors in etiology, all phases must be reviewed and weighed before any procedure of treatment is decided upon, especially in advanced pathology of the genital tract. Our hope lies in an ever-widening knowledge of both medical and surgical treatment, to make possible a greater immunity, and the elimination of mutilating surgical procedures.



• THE PRESIDENT'S PAGE •



The President of the United States, in his message to the American people December 29, gave a clear and concise report concerning the present world crisis and placed in the hands of the people the answer for security—UNITY.

Unity of purpose with an understanding of the problems to be confronted and backed by positive action will succeed wherever and whenever tried. Labor, industry, farming and the professions must know the problems of our country and unite their active forces and abilities in order to assure a free America.

The medical profession in America will only add to this unity in direct proportion to which each doctor assigns unto himself the responsibility of cooperating in any manner for which he may be called. There has never been any doubt that an emergency call for service will be answered one hundred per cent, yet emergencies often become disasters unless proper preparations have been made.

It is significant to note in this respect that there are still a few doctors in Oklahoma who have failed to return the A. M. A. Medical Preparedness questionnaires,* yet these same doctors would be the first to answer an emergency call.

A final appeal is now being made for completion of these schedules. An emergency exists, and let us be prepared to avert a catastrophe. All other agencies are speeding up their program to aid National Defense; surely our profession will do likewise. If you are one who has failed to cooperate in this preparedness program, won't you please complete the schedule today and mail it to me?

*Additional questionnaires may be obtained by writing to the Oklahoma State Medical Association at 210 Plaza Court, Oklahoma City.

President.



EDITORIALS



POOR BUT PERTINENT

In this hazardous period of social, economic and political instability, which is threatening the accepted foundations of life, including the time-honored principles of medical practice, it is well for us to continue voluntary care of the poor. This can be accomplished either through individual or organized effort. Accumulated experience indicates that individual care is not wholly without material reward.

Dr. Daniel Drake, one of the great in the history of medicine, once said to Dr. Lunsford P. Yandall of Louisville, Kentucky: "I have never seen a great and permanent practice, the foundations of which were not laid in the hearts of the poor. Therefore cultivate the poor. If you need another, though sordid reason, the poor of today are the rich of tomorrow in this country. The poor will be the most grateful of all your patients. Lend a willing ear to all their calls."

In Abraham Flexner's autobiography, *I Remember*, there is a statement suggesting that Dr. Yandall may have passed this advice on to his illustrious sons. Dr. Flexner says that when he was a boy one of them treated him for a severe and obscure illness and that "his remuneration was a weekly loaf of mother's bread, which I regularly used to carry to his home."

Early in his career Benjamin Rush said the poor were his best patients because "God is their paymaster." At the age of sixty-eight, on his deathbed, he said to his son: "Be indulgent to the poor." Though a century has passed, we find the following in *The Life*

of Chevalier Jackson. Dr. W. W. Keen is quoted as having said: "Chevalier Jackson's skill was acquired by a lifetime of work with the poor." No man could wish for a greater reward than Dr. Jackson's skill and the realization of what it has meant to humanity.

Returning to the sordid side, it may be pointed out that in the 18th century, Fothergill, whose annual income was \$125,000, said, "I climbed into the pockets of the rich over the backs of the poor."

The author recalls that one of his professors, a brilliant teacher and busy practitioner, attributed his high professional rating among the well-to-do on Fourth street to the influence of his washerwomen and nursemaid patients in poverty row on the water front.

In his remarkable work on surgery, Henry of Moudeville made the following statement: "If you have operated conscientiously on the rich for a proper fee, and on the poor for charity, you need not play the monk, nor make pilgrimages for your soul."

Let us pray for the preservation of personal freedom in the choice of a physician. It is this that keeps every good doctor's door open to the poor. The doctor needs the chastening influence of their presence and they need the sense of security and independence which a free choice helps to preserve. In time of trouble there is something intensely vital about this intimate relationship. No doubt this is due to the fact that the true physician is genuinely interested in his patient and does what he can to mend broken bodies without regard to religious faith, moral, social or financial position.



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Solution Racēphedrine Hydrochloride may be applied to the nasal mucous membranes as a spray or with a dropper.

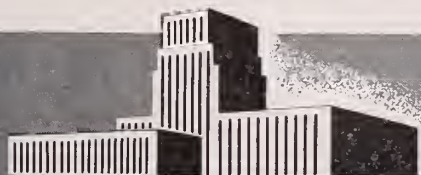
Solution Racēphedrine Hydrochloride consists of 1% of the drug in a modified Ringer's solution containing sodium chloride 0.85%, potassium chloride 0.03%, calcium chloride 0.025%, magnesium chloride 0.01%, and chlorobutanol 0.5% (for stabilization purposes).

*Arch. Otolaryng. 17:787, 1933



Solution Racēphedrine Hydrochloride 1% is available in one ounce dropper bottles for prescription purposes, and in pint bottles for office use.

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ASSOCIATION ACTIVITIES

Annual Meeting to Be in Silver Glade Room at Skirvin

Dr. Charles R. Rountree of Oklahoma City, who has been selected by the Annual Meeting committee as general chairman for the 1941 Session of the Oklahoma State Medical Association, announces that the annual meeting will be held in the Silver Glade Room of the Skirvin Tower Hotel, Oklahoma City.

Guest speakers for the annual meeting have been nominated by the officers of different scientific sections and an outstanding group of speakers is assured for the meeting. Names of guest speakers will be announced in the February issue of the Journal.

The following committees have been announced by Dr. Rountree and the Board of Directors of the Oklahoma State Medical Association will act as an advisory committee.

Commercial Exhibits committee members are: Dr. Elmer R. Musick, chairman; Dr. R. Q. Goodwin and Austin Bell. Members of the Scientific Exhibits are: Dr. Onis G. Hazel, chairman; Dr. Joseph Kelso and Dr. Jack P. Birge. Programs and Badges committee members are: Dr. J. C. McDonald, chairman; Dr. Gregory E. Stanbro and Dr. O. A. Watson. Those on the Women Physicians committee are: Dr. May Sheppard, chairman; Dr. Leila Andres and Dr. Aileen Petway.

The Auxiliary committee includes: Mrs. Floyd Keller, Mrs. Le Roy Sadler, Mrs. Grider Penick, Mrs. Gordou Ferguson, Mrs. W. K. West and Mrs. C. R. Rountree. On the Sports committee are: Dr. Hugh Jeter, chairman; Dr. Chester McHenry and Dr. Theodore G. Wails. The Alumni and Fraternity Dinners committee includes: Dr. Jack Kuhn, chairman; Dr. Bob Howard and Dr. Gerald Rogers. Entertainment Committee members are: Dr. Leroy Sadler, chairman; Dr. John Lamb and Dr. Fred Hood.

Members of the Program committee are: Dr. Dale Collins, chairman; Dr. Tom Wainwright and Dr. R. L. Noell. Members of the Publicity committee are Dr. D. H. O'Donoghue, chairman; Dr. Carroll Ponder and Dr. L. J. Starry.

Surgical Addresses To Be Submitted

All doctors who wish to appear on the Scientific Section on General Surgery of the Oklahoma State Medical Association in May are requested to submit a synopsis of their address not later than February 15. Dr. John Powers Wolff, Oklahoma City, president, has announced.

This will enable the committee to select a diversified program, Dr. Wolff explained. All material should be mailed to Dr. Raymond L. Murdock, Medical Arts Bldg., Oklahoma City, chairman of the section.

Lederle Has New Representative

Lederle Laboratories have recently announced the addition of a new representative for Oklahoma, Mr. Paul A. Snelson.

Mr. Snelson was formerly manager of the Snelson Laboratory in Oklahoma City and is returning to Oklahoma City after an absence of four years.

Problem of Dependent Children Discussed in Conference

The committee on Medical Economics of the Oklahoma State Medical Association met with representatives of the Department of Public Welfare December 20 for a discussion of ways and means by which the Department of Public Welfare might cooperate with the Oklahoma State Medical Association to develop more effective procedures related to the determination of physical or mental incapacity as a factor in eligibility for aid to dependent children.

Meeting with the representatives of the Association and Public Welfare department was Mrs. Lucille Smith, Medical Social Work Consultant of the Social Security Board, Washington, D. C.

Mrs. Smith outlined and discussed plans and procedures in operation in other states but pointed out that each locality would have its own particular problems and that no set plan would be applicable to all conditions.

In concluding the meeting, after a general discussion, Dr. Horace Reed, chairman of the Association committee, requested that the Public Welfare Department submit a proposed plan which could be given consideration at an early meeting of the Council of the Association and further suggested that the Department submit forms it was now using, a statement of regulations and policies relating to incapacities and all other information as well as procedures in use at the present time in order that a more comprehensive study of the problem in Oklahoma would be possible.

The material requested by Dr. Reed has been submitted by the Public Welfare department and the Association committee will meet at an early date to further consider the request for cooperation made to the Association.

Postgraduate Course at the University Offered

The University is keeping abreast of the current trend of "doing something for the physician in practice." During the past semester, for the first time, the school has been able to assist the graduate in "brushing up" his knowledge.

Many compliments have been received on the organization of the two-weeks' postgraduate course in Obstetrics, which was conducted several times during the past semester. Inquiries and enrollments have been accepted from many Oklahoma physicians, as well as from doctors in Kansas and Missouri.

It is no longer necessary for the busy physician to go far from his practice, or to pay a large fee for postgraduate instruction. The course at the University has been officially mentioned as a model for the surrounding state universities. Almost every major department of the school participates in the teaching, making every day of the course worth any expense or inconvenience.

During the coming year, this course will be repeated several times, and enrollments are now being accepted for the course beginning Monday, February 3, 1941. Applicants should write directly to the Department of Obstetrics, Room 8, University Hospital, Oklahoma City, stating their time preference. If accepted, the applicant will be charged a fee of \$15.00, covering the use of equipment and supplies. No other charges are made.



Main Office and Entrance to Polyclinic Hospital

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The business-like office giving entrance to Polyclinic Hospital reflects the high standard of service which this institution sets for itself. The lobby is spacious and cheerful. Thick tile makes for quiet.

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Congress on Industrial Health Holds Third Annual Meet

All phases of industrial health, a vital factor now in the present speed-up of American production, were discussed at the Third Annual Congress on Industrial Health Jan. 13 and 14 at the Palmer House in Chicago.

The primary concern of this Congress is to acquaint the physician and others with the importance of preventive medicine and surgery as applied to industrial organization.

Among topics discussed by the various speakers were: "The Physician in Industry and National Defense," Irvin Abell, M. D., chairman of the Health and Medical Committee in the Council of National Defense, Louisville, Ky.; "Prevention and Treatment of Hand Infections," Sumner L. Koch, M. D., Chicago; "Employment of the Physically Handicapped," D. L. Lynch, M. D., President of the American Association of Industrial Physicians and Surgeons, Boston; and "Essentials of First Aid and Later Management of Industrial Eye Injuries," Sidney Walker Jr., M. D., Chicago.

Since many able-bodied men will probably be inducted into military service, industry may need to recruit workers from the physically handicapped and from the aging groups. Induction of these groups into industry was thus an important phase of discussion at the Congress.

Doctor Taylor Honors and Is Honored

At the December meeting of the Hughes County Medical Society held in Holdenville, Dr. W. L. Taylor entertained members at a chicken dinner. Dr. Taylor was honored by his colleagues with the Presidency of the Society for the thirteenth consecutive time.

University of Oklahoma School of Medicine

The annual meeting of the Oklahoma Society of Medical Technologists was held Saturday, November 9, 1940, at the University of Oklahoma School of Medicine. A large number of technicians from the State of Oklahoma were registered. The program was as follows:

10:00 A. M.—Registration

11:45 A. M.—Demonstration and Discussion of the Asheim-Zondek reaction and reading for vaginal smears, with lantern slides. Dr. A. A. Hellbaum, Associate Professor of Physiology.

11:15 A. M.—Demonstration: The Frozen Section Method. Methods of Overcoming Objections and Difficulties. Dr. L. A. Turley, Professor of Pathology, assisted by Miss Katherine Aderhold, M. T., and Doris McLean.

1:30 P. M.—Determination of Blood Gases by the Use of the Van Slyke Apparatus. Practical Suggestions on Colorimetric Methods. Dr. I. S. Danielson, Assistant Professor of Biochemistry, assisted by Vernal Johnson, M. T.

2:00 P. M.—Hematological Technique. Dr. J. M. Thuringer, Professor of Histology, assisted by Miss Ellen Wright, M. T. and Dorothy Nolan Brown.

3:00 P. M.—Animal Toxins. Speech with lantern slides. Dr. A. I. Ortenburger, Professor of Zoology, University of Oklahoma.

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3:45 P. M.—Color Reactions Used for the Detection of Alkaloids. Demonstration by Dr. H. A. Shoemaker, Professor of Pharmacology.

4:15 P. M.—Demonstration: Blood Cultures. Stool Cultures for Dysentery and Typhoid, with Demonstration of Special Media for Stool Cultures. Dr. H. D. Moor, Professor of Bacteriology, assisted by Ida Lucille Wallace, M. T.

General Robert U. Patterson, Dean of the School of Medicine, attended the meeting of the Southern Medical Association at Louisville, Kentucky. He served as Chairman of the Section on Medical Education and Hospitals. As his chairman's address he read a paper entitled "Modern Standards and Trends in Medical Education."

Dr. Donald B. McMullen, Associate Professor of Hygiene and Public Health, attended the meetings of the Southern Medical Association and the American Society of Tropical Medicine at Louisville, Kentucky. He read a paper entitled "The Incidence of Intestinal Parasites in School Children of Eastern Oklahoma" before the section on Public Health of the Southern Medical Association. Dr. McMullen also read a paper entitled "The Distribution and Control of Schistosome Dermatitis in Wisconsin and Michigan" at the meeting of the American Society of Tropical Medicine.

Many of the clinical members of the Medical School staff attended the meetings of the Southern Medical Association. The following members of the Medical School and hospital staffs had scientific exhibits: Dr. Joseph W. Kelso, Associate Professor of Gynecology, "Analysis of One Thousand Hysterectomies"; Dr. Onis G. Hazel, Associate in Dermatology and Syphilology and Dr. C. R. Rountree, Assistant Professor of Orthopaedic Surgery, "Syphilis of the Skeletal System"; Dr. Henry H. Turner, Associate Professor of Medicine, "Clinical Endocrinology."

Dr. Ben C. Hucherson, Fellow in Orthopaedic Surgery, collaborated on an exhibit from the University of Louisville School of Medicine on "Fractures of the Humerus" at the meeting of the Southern Medical Association.

The "Building Program" of the School of Medicine, in order of importance and priority includes:

1. An Isolation Building.
2. A Nurses' Home.
3. Alteration of Present Nurses' Home to provide living accommodations for Residents and Interns and provide additional space for the Out-Patient Department.
4. A Wing for University Hospital.
5. A Wing for the Crippled Children's Hospital.
6. Utility Building and Equipment.
7. An Annex to the Medical School Building.
8. A Student Union Building.
9. A Psychiatric Building.
10. An Annex to University Hospital for the Treatment of Cancer.
11. Tuberculosis Building.
12. Dental School.

It is hoped that the next Legislature will provide funds to complete at least the first three items in this program. The Isolation Building will add approximately thirty (30) to forty (40) beds to the Crippled Children's Hospital as it will care for all contagious diseases arising among children in that hospital.

The Nurses' Home is needed as the present facilities are entirely inadequate. The new Nurses Home is planned to accommodate at least 150 student nurses in addition to the graduate nurses required for administration and supervision.

The alteration of the present Nurses' Home will re-

lease space in the University Hospital, now used for Resident and Intern Quarters, which will accommodate about 45 additional patients and permit better segregation. In addition the facilities of the Out-Patient Department will be increased and improved.

The University of Oklahoma School of Medicine began the Christmas recess at 5:00 P. M. on December 21st. During the holiday season a rather extensive program was carried out for the entertainment of the children in the Crippled Children's Hospital. This consisted of various musical programs and the presentation of gifts to the children. These gifts were supplied in large part by donations by the Hospitality Club, Junior League, Auxiliary to the Oklahoma State Medical Association, Philomatheia Club, Camp Fire Girls, etc.; private individuals; and many business firms.

Classwork was resumed at 8:00 A. M. on January 6th. The semester examinations begin on January 23rd and will end on January 30th. Registration for the second semester will be on January 31st and February 1st.

The proceedings of the staff meetings of the University Hospitals of the University of Oklahoma School of Medicine are now being published and a copy of Volume 1, No. 1, of these proceedings is being mailed to each member of the State Medical Society. These proceedings will be published from time to time and the present plan is to send a copy to each member of the State Medical Society as they are published.

Dr. Charles F. De Garis, Professor of Anatomy, was recently awarded a \$200 prize by the New York Academy of Sciences for his paper on "Aortic Arch in Primates." This paper representing about fifteen years' work compares all patterns of the aortic arch in both apes and man.

On February 7, 1941, at 8:00 P. M. in the University auditorium, Dr. Ernest Sachs, Professor of Clinical Neurological Surgery, Washington University School of Medicine, St. Louis, Missouri, will give the Leroy Long Memorial Lectureship. This lectureship is sponsored by the Phi Beta Pi Medical Fraternity and was established in 1940 as the Leroy Long Medical Lectureship.

During the past year a two weeks' postgraduate course in Obstetrics was established and several courses were given. Enrollment included many physicians from the State of Oklahoma as well as a few from surrounding states. The course has been officially mentioned as a model for surrounding state universities. During the present year this course will be repeated several times and enrollments are now being accepted for the course beginning Monday, February 3rd, 1941. Applicants should write directly to the Department of Obstetrics, Room 8, University Hospital, Oklahoma City, Oklahoma. This work is in charge of Dr. E. N. Smith, Associate Professor of Obstetrics.

Half of Graduates Remain in State

A little less than half of the graduates of the school of medicine of the University of Oklahoma are located in the state, according to figures compiled by Dr. H. A. Shoemaker, assistant dean, during the first part of December.

At that time, 473 out of 1,017 graduates were practicing here. They were located in 133 cities in 74 counties of the state. Thirty graduates were connected with the medical division of the United States Army, 14 with the United States Navy, and two associated with the United States public health service.

The number of graduates connected with the medical division of the United States Army has no doubt increased since then as the entrance of many young doctors into that service during the latter part of the month and January has been called to the attention of the Executive Office.

Group Hospital Service News

OUR BABY—KEEP HIM WELL! ! !

Group Hospitalization Insurance, while just an infant of some nine months, is getting to the place where it is about to begin to walk by itself. It is over the first big hump and is beginning to take on a heavier diet. It is just now reaching the critical age where we are going to be forced to watch it carefully and give it the proper attention.

The greatest danger facing an infant of this age and temperament is not so much neglect as it is over-attention. Physicians are just beginning to see that Group Hospital Service is working and working well. Patients get attention they never have received nor could they get it in any other way. And therein lies a great danger. When an insurance program of this type gets on its feet, physicians often are prone to start relaxing their vigil and patients are allowed to stay in hospitals a day or two days or many days longer than they would stay if the patient paid the bill direct to the hospital. This is not right because it costs other patients insured under the plan. It runs up the costs. It makes it impossible to reduce rates and add other services to the policies.

The Hospital Insurance plan in effect in Kansas City has been in operation eighteen months. This plan is beginning to feel the effects of this practice. Any plan would feel it. Group Hospital Service is a baby of the Oklahoma State Medical Association. It is a lusty infant. Let's keep it well.

Following is an article which appeared recently in the Kansas City Medical Journal which should sound a warning to every doctor in the state of Oklahoma and points out a "goose and golden egg" moral which is very timely:

OUR BABY—HE'S SICK ! ! !

Our baby (group hospitalization) conceived 'midst high hopes and born of mutual patient-doctor-hospital needs, has grown lustily through eighteen eventful months. He required considerable special formulae with the constant attendance of the greatest specialists during his early months. Then he brightened up, asked for solid food, grew strong, and captured the admiration of this entire community. Recently, he's developed a rash, won't eat, looks mad all the time and keeps mumbling, "They don't treat me right. They don't treat me right"—ad infinitum. When asked whom he means by "They," he says, "The doctors." "Why, you have the best specialists in town looking after you. Aren't you mistaken?" "Hell no," he sputters (learned that from his Daddy). "The doctors looking after me personally are all right, but there's too many other doctors with good intentions and not enough familiarity with my case that have me off my budget. Why don't you call a consultation of every doctor attending me and explain my case?" Then he vomited and wouldn't talk any more.

So, a consultation of every member of the Jackson County Medical Society is called. Group Hospital Service is one of sixty-six such plans in the country. Do you realize it is the only type of plan where you as the doctor have absolute authority and are trusted implicitly as the sole claim agent? It is entirely up to you to say if the patient deserves to be hospitalized, for how long, and when he should go home; two years' experience has demonstrated that something is wrong. Either we are "fudging" or haven't been willing to

dismiss our Group Hospitalization patients from the hospital as quickly as other patients. Figures indicate that during the first year patients were hospitalized under the plan 8.63 days per person. The first six months of 1940 it rose to 9.1. For October 1940 it was 10.1 days. Well, what's an extra day or day-and-a-half? When multiplied by the average number of hospital admissions, around 367 for October, it means 400 and over extra days per month or some \$25,000 per year used to pay for board and room for Johnny, or Mrs. P. who just doesn't want to go home until tomorrow but easily could go today *if the doctor insisted on it*. Well, what would happen to the money if we didn't spend it on extra days of hospitalization? First, it would go to reserves, so that when an epidemic or catastrophe hits, we shall be able to meet all needs and not have to go out of business, or seriously cut benefits. In case of no such emergencies it would eventually permit increase in services, such as furnishing oxygen, donors for transfusions, increases on room per day allowances, more days per year, etc.

The abuses our baby suffers are exemplified as follows: Mrs. S. had 9 days hospitalization for a fracture of the distal phalanx of the second toe. Dr. X keeps all obstetrical cases in for 19 days when the average for non-G. H. S. patients in all private hospitals is 12 days. Tonsillectomy cases under G. H. S. remain 3 and 4 days, when the average for others is one or two days. Before Group Hospitalization went into effect, the average stay for an appendectomy was 10.7 days. G. H. S. patients now stay an average of 13.8 days.

How important is this Group Hospitalization to our community? During the fiscal year ending April 30, 1940, every hospital in the plan showed an increase in admissions which was almost the same figure as of patients admitted under G. H. S. and insurance plans, of which Group Hospital Service, created and operated as a co-operative enterprise by doctors of the Jackson County Medical Society, hospitals and laymen, represents the largest group (10 per cent of the city's total population). The hospitals received 100 per cent of their bills paid on all accepted claims. This total of nearly \$200,000 (G. H. S. only) thus represents money the patients did not have to pay hospitals and had left available to pay doctors. Group Hospital Service is the only plan allowing 30 days total hospitalization the first year. The plan keeps patients in Kansas City. How? It will pay for hospital services outside the community only for emergencies. Thus for any elective service, the patient must enter a greater Kansas City member hospital and be served by a Kansas City physician.

The plan is not in danger; it can be further strengthened and benefits increased, but through our carelessness an increase in rates with decrease in benefits will soon result. There is even the possibility of loss of the only physician-controlled plan in existence in this area.

Isn't the baby worth rearing?

Classified Advertisements

FOR SALE—Physician's Instruments; proctology instrument; refraction equipment; one trial case; one Dick-X-ray; a new Ionto-phorator; one Spencer microscope; one cautery; belonging to the late Dr. C. E. Beitmen of Kendrick, Okla. Address inquiries to The Journal, 210 Plaza Court, Oklahoma City.

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CLINICAL CONFIRMATION:** When
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*Proc. Soc. Exp. Bio. and Med., 1934, 32, 241-245

**Laryngoscope, 1935, XLV, No. 2, 149-154

Trachoma Prevention Discussed At Joint Meeting

The Conservation of Vision Committee of the Association met with the representatives of the Public Health department, Dr. Grady Mathews, Dr. John Y. Battenfield and Dr. J. A. Morrow, January 5 for a discussion of the prevailing conditions in Oklahoma on trachoma.

The American Society for Prevention of Blindness recently reported to Doctor Mathews on trachoma in Oklahoma and pointed out that the eye sight deficiency of a large percentage of those receiving aid from the Public Welfare department was directly traceable to trachoma. Doctor Mathews at once requested a conference with the committee of the Association.

It is hoped that plans will soon be formulated whereby a survey of the trachoma situation in Oklahoma will be made in order that some plan of educational work may be placed in operation for the purpose of controlling this disease.

American Transfusions to British Given Through Use of Plasma

New techniques for collecting and transfusing blood, utilizing plasma rather than whole blood, are making it possible for thousands of Americans to donate their blood for the British cause. These techniques are explained by Edith Roberts, Kokomo, Ind., in the December issue of *Hygeia*, the Health Magazine.

A healthy donor thousands of miles from the scene of war may aid a wounded soldier by the use of plasma, the liquid portion of the blood after the red and white cells are removed.

"The difficulty of direct blood transfusion at the scene of any great disaster which shatters human bodies is evident," says Edith Roberts. "It is almost equally impossible to effect the necessary transfusion with blood which has been donated and preserved, for the simple reason that, after a very few days outside the body, whole blood deteriorates, its cells break down, and it cannot be transported and used.

"This is where plasma enters the picture. For plasma does not have to be 'grouped' or 'typed' as whole blood must be before transfusion, else the result may be fatal. Plasma from one human being can be given to any other; plasma can be transported long distances and preserved for a year or more. It can even be dried and redissolved."

She continues with the statement that over 8,000 American men and women have given their blood since the first appeal and at present blood is being taken from about 1,000 donors a week. "Donors must be between 21 and 60. They are ineligible if they have recently had an infectious disease or have ever had tuberculosis, malaria or syphilis."

The Red Cross solicits donors, handles publicity and undertakes the shipment and delivery of the plasma to England.

Medical Examiners May Make Charges

In an opinion given by Mac Q. Williamson, Attorney General of Oklahoma, the state board of medical examiners has the authority to make a reasonable charge for services rendered.

"The board has authority to adopt rules and regulations of a subordinate character which it may find necessary to carry out the public policy set forth in provisions of the Oklahoma medical practice act, and if under said rules and regulations the board performs services for which no charge or fee is established or fixed by the act, a reasonable charge or fee can be established or fixed by the board sufficient to defray the actual costs," said Williamson.

Health Aspects of the Draft*

The adoption by the American people of conscription as a national defense measure should have some distinct effects on both personal and public health. First of all, the period of military service should result in the improvement in physique of young men called into service. But also of import for the future health of our people are several other factors which are either incidental to Army life or which arise from preventive and sanitary procedures of Army medical practice. For these reasons, military service for the Nation's youth promises to be a constructive factor in the future of American public health. It is a matter of distinct public interest to know how these long-term benefits will accrue from conscription. On the other hand, there are definite and more or less immediate hazards which some of the young draftees will face, and of which the public should also be aware, because unless these hazards are known in advance and provided against, they may be a source of serious trouble.

It is to be regretted that there is little statistical measure of the improvement in physical condition of American young men during Army service. There are some scant data in studies made during the World War, based upon anthropometric measurements of the first million accepted draftees in 1917-1918 and of approximately 100,000 demobilized veterans in 1919. About the best and most trustworthy evidence of the improved condition of these men is the fact that there was an average increase of approximately one inch in chest circumference, a figure that is greater than would be accounted for by the increase in average weight and age during the period of service. Another good indication of physical betterment is that, although the average weight of draftees increased by 3.4 pounds during Army service, there was an appreciable decrease in the incidence of obesity. Thus the proportion of men weighing 190 to 199 pounds decreased from 7.9 to 7.2 per 1,000, and of those weighing more than 200 pounds, the proportion fell from 5.4 to 4.6 per 1,000. At the same time the incidence of underweight likewise decreased, for the proportion of men weighing less than 130 pounds dropped from 254.7 to 179.4 per 1,000. The extent to which military service contributed to this latter result, however, is uncertain, because many of the draftees were still within the age period in which an average annual gain in weight of 1 or 2 pounds is common.

It is reasonable to expect that appreciable improvement in general health and physique will be recorded among men called to military service in the next few years. Advances in knowledge of nutrition should be reflected in an improvement in the Army dietary. A large proportion of the new draftees will be better nourished than they were before their Army service, because they will have a diet that is adequate in all vital respects. Many draftees will also be experiencing for the first time an active life of physical work and exercise. In civilian life younger persons as well as older persons have become too dependent on machines. Because of the reduction in the amount of physical labor required in everyday work, many young people do not expend as much energy or use the large muscles of the body, either in work or in play, as much as is good for proper physical health and development. The active life of the Army, as well as the program of healthy recreation planned for the new Army, should be of considerable benefit to the draftees. Many of the men will be helped to form regular living habits because of the routines which they will experience as a necessary part of military life, and this should be of substantial, if indirect, benefit to their health.

A favorable health factor of quite another type is

*Reprinted from the Statistical Bulletin, Metropolitan Life Insurance Company, October, 1940.

the medical care which these men will receive. Of direct benefit to them and indirectly to the general public will be extensive vaccination against smallpox. For those men who have not before been vaccinated, and particularly those who come from areas where it is not compulsory or where there is effective agitation against it, this routine procedure will educate many to its value, some of whom may later be advocates of vaccination in their home communities. In a measure, vaccination against typhoid fever will accomplish the same purpose. It is notable that after the World War the death rate from typhoid in this country dropped very sharply, and one of the factors in this trend was the large scale anti-typhoid inoculation of men in Army service during the War.

The medical examination of draftees will disclose many with various types of impairments which previously had been undiagnosed or untreated. The correction of defects will be of distinct value to the men, whether or not they are accepted for the Army.

The most serious hazard that the new draftees will face is from the communicable diseases. Armies in training are necessarily quartered in relatively circumscribed areas, with the result that conditions are favorable to the spread of diseases of this type. There is good reason to expect, however, a much better record in this respect than during the World War. Our preparations today are not subject to the forced haste of 1917-1918. Housing provisions for soldiers will be more adequate now than they were at that time.

Outbreaks of the communicable diseases ordinarily characteristic of childhood may be expected, and in fact are quite unavoidable. Fortunately they will affect a relatively small proportion of the men, and specifically those who for one reason or another have not acquired immunity to them in childhood. This situation is in a sense normal in the Army, because in peace time these acute communicable diseases form a significant proportion of total Army hospital admissions for sickness, particularly among newly enlisted men. In 1917-1918 the diseases of this type which occurred most frequently were measles and mumps. Epidemics of cerebrospinal meningitis caused a mortality quite out of proportion to its incidence. The incidence of the "childhood" diseases tended to be highest in men from rural areas, more especially from the South. It is likely, however, that these diseases will be far less frequent in the modern camps than during the last war, because there should be fewer non-immunes among today's draftees. The two chief reasons for this decline in non-immunes are, first, a smaller proportion of young men live in country districts now as compared with 20 years ago and, second, the isolation of rural dwellers has much diminished during this period, largely as a result of the widespread use of the automobile.

The mortality from epidemic cerebrospinal meningitis in the new draft Army will definitely be much lower than that during 1917-1918, because some chemicals of the sulfonamide group have proved effective against the disease. The case fatality in cerebrospinal meningitis before chemotherapy was 25 per cent to 50 per cent even in well-treated groups, but recent general experiences with chemotherapy show case fatality rates in this disease of about 15 per cent. Some observers with small numbers of cases report even better results. Moreover, the case fatality in the age groups affected by the draft is lower than the figure at all ages.

So far as respiratory diseases are concerned, little can safely be predicted. But one great advantage that these young men today have, as compared with draftees of the World War, is that against pneumonia we now have new and powerful agents of cure. Moreover, influenza has

been the subject of intensive research since the great pandemic, and only recently vaccines have been developed which bear promise of success against an epidemic of the disease, if it should occur. It is certain also that our Army medical officers will have learned many valuable lessons from our experience of 1917-1918 and will avoid mistakes that were made then. Digestive diseases, which in the past were responsible for a high proportion of disabling illnesses in all armies, should be much less frequent in the new drafted Army. Advances in methods of preservation and refrigeration of foods, as well as the improved dietary of the Army, should bring about this change for the better.

A health hazard which, as on previous occasions, demands serious attention, is venereal disease. But here, too, we may look forward to a better record among draftees who will now serve than among those of 1917-1918. Government leaders, including those in military service, are fully awake to this danger and are bending every effort to meet it. Army officials are showing a very direct interest in the plans for recreational and social activities of the men to be called into service and, in fact, have taken over direct administration and control of these matters within the camps. It is, moreover, a matter of record that the incidence of venereal disease in the regular Army has shown a consistent and satisfactory decline. Various measures have brought this about, among which are instruction in sex hygiene for soldiers, compulsory prophylaxis and periodic inspection of soldiers and, most recently, greater responsibility of the commanding officers themselves for the control of the problem in their own units. The frank and objective attitude of Army authorities to the problem of venereal disease will not be lost on the draftees, and this itself should have permanent value to public health by giving to hundreds of thousands of young men some fundamental information about these diseases and their dangers, and promoting a sane viewpoint toward them.

It should be most assuring to both draftees and their families that the general health record of our Army has been at its best in recent years. The mortality from disease has fallen appreciably. During the five years 1933-1937 the average death rate from disease declined 10 per cent from that of the preceding five year period. The pneumonia death rate fell 13 per cent in this interval and the tuberculosis rate nearly 35 per cent.

In general, the American people can hope for substantial benefits in terms of health as a by-product of the training of the new draft Army. Other countries which have had peace-time conscription over a long period of years have unquestionably profited in terms of sturdier physique for the majority of their male populations. Peace-time conscription is a distinct departure from our traditions, but our people heartily endorse it in the present world crisis. It is good to know that the preparations under this emergency, aside from fulfilling their immediate purpose, will confer lasting benefits on the Nation. It is our great hope that these benefits may not be nullified by the crashing down upon us of those very evils which have engulfed the Old World and which the draft is designed to ward off from our country.

Auxiliary News

We had hoped to have Mrs. V. E. Holcombe, President of the Woman's Auxiliary to the American Medical Association, come to Oklahoma some time in January, but she has written that she will be unable to come at this time because of a meeting this month in preparation for the June meeting in Cleveland, Ohio. We are looking forward to having her come some time before the year is over.

In an article, "Why Read the Bulletin?", Mrs. V. E. Holcombe, President of the Woman's Auxiliary to the American Medical Association, explains why each member of the Woman's Auxiliaries over the nation should subscribe and read this publication.

She points out that it serves as a medium for the exchange and interchange of facts, information, knowledge and the proper use of those facilities. Wives may learn new ways of helping their doctor husbands through increased knowledge and understanding of their problems and their duties.

"Legislation is now pending," Mrs. Holcombe goes on to say, "which will vitally affect the whole outlook of the medical profession. The trend of laymen and lay organizations is serious. Doctors' wives can have an influence on such legislation if they know the facts. They have many avenues of contact where they may influence public opinion towards a fair presentation of the actual facts."

As the immediate goal of the auxiliaries is to increase the circulation of the Bulletin to include at least one-fourth of our Auxiliary membership, that means that the Bulletin should have about 6,000 readers and that each auxiliary must send in at least one-fourth of its membership. The quota for Oklahoma is 97 and so far subscriptions total only 28.

On December 3 all ten members of the LeFlore County Auxiliary met at the Hotel Judkins at Forbes. Mrs. Rush Wright, president, addressed the group on the subject "Our Medical Responsibilities." They also discussed the possibility of obtaining more renewals and new subscriptions to "Hygeia."

The Oklahoma County group is finishing up 15 layettes, several of which have already been used where needed greatly, one going to clothe an unexpected twin. The Thanksgiving baskets were given to a needy, deserving family. Mrs. Charles R. Rountree was appointed to represent the Oklahoma County Auxiliary on a newly organized board composed of one member from each civic group which aids the children at the Crippled Children's Hospital.

The December meeting of the Pontotoc County Auxiliary was held in the home of Mrs. C. F. Needham at Ada. This group works one day each month at the Valley View Hospital.

Tulsa Auxiliary met December 3 in the home of Mrs. K. C. Reese with 40 members present. Dr. R. C. Pigford, President of the Tulsa County Medical Society, talked on "Medical Military Preparedness." The group decided to make their giving of subscriptions to "Hygeia" to all Tulsa County schools an annual project. A toy shower for under privileged children ill in Tulsa hospitals was held and the toys were distributed to them Christmas Eve.

The Woodward County group, whose president is Mrs. N. E. Duncan of Forgan, Oklahoma, are certainly to be commended for their enthusiasm and cooperation. Their membership is made up of doctors' wives from several of the western counties, and sometimes they have to travel as far as 140 miles to the place of meeting. They meet at the same time and place that their husbands do, having dinner together and then separate for their respective business meetings. If the doctors have a particularly interesting program, the ladies attend that, and carry on their Auxiliary work through committees. They are doing good work through their public relations committee throughout their district.

• OBITUARIES •

Robert Erle Evans (1909-1940)

A highway collision the morning of December 31, 1940 brought an abrupt end to the short but highly promising career of Robert Erle Evans, 31, former practising physician at Ada, who was on his way to Fort Sill, Lawton to complete his examinations for active duty as a reserve officer there. He died shortly afterward of injuries sustained.

Doctor Evans was born at Hugo, Oklahoma, August 27, 1909 and attended grade and high school in that city. He later enrolled at the University of Oklahoma School of Medicine where he received his doctor's degree in 1934 and spent the next 12 months in a rotating internship at Mercy Hospital, Council Bluffs, Iowa. After completing his internship, Dr. Evans practised three months at Oakland, Iowa and entered the employment of the federal government as a contract surgeon at a CCC camp at Hope, Arkansas.

On January 1, 1937 he entered private practice in Ada. Following post graduate work in 1939 in Harvard University at Boston, Mass., Dr. Evans returned in August of that year to join in the formation of the Lewis-Evans Clinic and only a little over a month ago, this group moved into their new clinic building. On December 30, 1940 Dr. Evans was called to active duty as a reserve officer and because of the illness of his wife, drove back to Ada for that night. In returning to Fort Sill to complete his examinations, he was involved in the car-truck collision which resulted in his death.

Immediate survivors are the widow and Dr. Evans' parents, Mr. and Mrs. R. L. Evans, Hugo.

The members of the Pontotoc County Medical Society have written a tribute to Dr. Evans which follows:

"The passing of Dr. Robert Erle Evans at the early age of 31 years has removed from our membership, association and daily contacts, a gentleman of the highest degree in honesty, integrity, ethics and ideals. In the three years that he lived among us, Dr. Evans has held the positions of President and Vice-President of our Pontotoc County Medical Society and was elected to the office of Trustee at the time of his death. His keen intellect and frank opinion in consultation and in the proceedings of our organization will long be remembered and will be greatly missed in the future. In this member, we had early recognized that suffering humanity was given first consideration and individual gain was incidental to the welfare of his clientele. It is from associations such as these that we gain our ideals in life, and it is the desire of this society to express our appreciation of Dr. Evans along with our respect, regrets, admiration and sympathy to his wife and loved ones.

In appreciation of these fine qualities and the friendships which we enjoyed with this member, the Pontotoc County Medical Society desires to express its sorrow and sympathy, collectively and individually, and that this expression be made known to the family, the State Medical Association and to become a part of the records of this Society."

Committee: Robert E. Cowling, M.D.
Clarence F. Needham, M.D.
Miles L. Lewis, M.D.

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It is, we suppose, the largest biological laboratory in the world now, with 1100 workers; 500 horses on treatment, and tens of thousands of guinea pigs, rabbits, mice and other laboratory animals.

Able brains, too, working constantly on the liveliest kind of a spacious, long-range research program in both biologicals and pharmaceuticals!



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New Scientific Section Approved By Council Members

On the petition of 25 members of the Association, a new scientific section has been approved by the Council of the State Association. This new section will be known as the Section on Neurology, Psychiatry and Endocrinology.

Dr. D. W. Griffin, Norman, has been elected chairman; Dr. Harry Wilkins, Oklahoma City, vice chairman; and Dr. Coyne Campbell, Oklahoma City, secretary.

The officers have announced that a full program will be held at the next annual meeting of the Association. Anyone interested in the work of the section should communicate with its secretary, Doctor Campbell.

News From The State Health Department

The most complete public health program ever known in Oklahoma was carried out during the year 1940 by the State Health department.

The department ranked foremost among similar organizations throughout the nation for its rapid growth and progress along lines of preventive medicine.

The number of local, full time county health departments increased; new services were added; personnel and equipment was increased; closer cooperation with the medical profession was obtained and the methods of public health procedure were improved. The number of county departments increased from 29 to 37, including Bryan, Caddo, Comanche, Creek, Logan, Johnston, Roger Mills and McClain counties.

Provisions of the Selective Service Act gave a tremendous impetus to the program for control of venereal diseases. Although it began operation only during the last two months of the year, the national defense program caused nearly 12,000 specimens to be examined in the laboratory for syphilis. The syphilis incidence proved to be that normally found, averaging close to five per cent.

In addition to this work, the health department's program for control of venereal diseases showed steady progress. The number of clinics for treatment of indigent patients was increased from 55 to 62 and the number of patients increased from 3,000 to 5,341. Practicing physicians of the state did much of the work in these clinics, being paid from federal funds at established prices.

That the medical profession is using the state health department laboratory as an aid in controlling disease was amply demonstrated during the past year. The number of specimens submitted reached an all-time high, as did the amount of vaccines, toxoids and drugs manufactured for use of public health workers and the medical profession. The percentage of increase in work of the laboratory figured close to 35 per cent.

Several new services were added, including a division of industrial hygiene; an additional traveling unit for the dental division; and additional x-ray machine for diagnosis of tuberculosis and a traveling laboratory for use in determination of stream pollution and safety of municipal water supplies and sewage disposal plants.

Health conditions in Oklahoma improved during the

year, with deaths from communicable diseases decreasing and the maternal and infant death rates showing a definite decline.

"The program improving health in Oklahoma is progressing in satisfactory manner, primarily because of the interest and cooperation of the medical profession, the support of local governmental agencies and improved methods of practicing public health," Dr. G. F. Mathews, commissioner, commented.

The first 1941 refresher course for physicians of Oklahoma began early in January with indications pointing to genuine interest throughout the state.

The course is being sponsored jointly by the Oklahoma State Medical association and the Oklahoma State Health department.

Dr. James G. Hughes of Memphis, Tennessee, is the lecturer for the course in pediatrics. Doctor Hughes will speak before the county medical societies in most counties of the state and all physicians are invited to attend.

A similar venture was successfully undertaken last year when Dr. Edward N. Smith conducted a course in obstetrics.

Oklahoma had 443 reported deaths from influenza during the year 1940, according to records of the State Health department.

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MEDICAL PREPAREDNESS

254 Doctors Asked to Send In Questionnaires

The American Medical Association has requested the Medical Preparedness Committee of the Association to make every effort possible to complete the Preparedness schedules for all doctors in Oklahoma by February 1.

Every person with a medical degree is expected to fill out the schedule regardless of age, physical condition and whether or not he is in active practice.

This is a final appeal before making a personal canvass, which would be an added expense to your Association. Many of your colleagues are devoting hours each day to our Government; surely you can do your part by giving a few minutes of your time to filling in the questionnaire and returning it to 210 Plaza Court, Oklahoma City.

The following list gives the number of doctors in each county who have not yet returned a schedule and the local County Preparedness chairman. Should you believe you might be one of these in your county, contact your local chairman and he can advise you as to whether or not your name is on the list and if so, provide you with a schedule.

County	Number	Chairman
Adair	4	
Alfalfa	5	L. T. Lancaster, Cherokee
Beaver	4	
Beckham	2	E. S. Kilpatrick, Elk City
Blaine	1	A. K. Cox, Watonga
Bryan	1	R. E. Sawyer, Durant
Caddo	13	Odis A. Cook, Anadarko
Carter	2	F. W. Broadway, Ardmore
Cherokee	1	J. S. Allison, Tahlequah
Choctaw	1	E. A. Johnson, Hugo
Cimarron	2	
Cleveland	1	W. T. Mayfield, Norman
Coal	1	J. S. Fulton, Atoka
Comanche	18	Fred W. Hammond, Lawton
Craig	1	Paul G. Sanger, Vinita
Creek	3	G. C. Croston, Sapulpa
Custer	1	McLain Rogers, Clinton
Delaware	2	
Dewey	2	
Ellis	3	
Garfield	5	J. R. Walker, Enid
Garvin	3	John R. Callaway, Pauls Valley
Grady	5	L. E. Woods, Chickasha
Grant	1	E. E. Lawson, Medford
Harmon	1	S. W. Hopkins, Hollis
Harper	2	
Haskell	3	
Hughes	3	A. L. Davenport, Holdenville
Jackson	2	E. S. Crow, Olustee
Johnston	5	
Kay	11	L. H. Becker, Blackwell
Kiowa	5	B. H. Watkins, Hobart
Latimer	2	
Love	3	
LeFlore	2	
Logan	4	W. C. Miller, Guthrie
Major	1	
Marshall	2	J. L. Holland, Madill
McCurtain	7	W. B. McCaskill, Idabel
McIntosh	3	D. E. Little, Eufaula

Murray	5	Paul V. Annadown, Sulphur
Muskogee	10	H. T. Ballantine, Muskogee
Noble	2	T. F. Renfrow, Billings
Nowata	1	J. V. Athey, Bartlesville
Okfuskee	6	A. S. Melton, Okemah
Oklahoma	38	Horace Reed, 1200 N. Walker Okla. City
Okmulgee	1	R. L. Alexander, Okmulgee
Osage	5	C. H. Guild, Shidler
Ottawa	4	F. L. Wormington, Miami
Payne	2	Stillwater, R. E. Waggoner
Pittsburg	1	R. K. Pemberton, McAlester
Pontotoc	1	M. M. Webster, Ada
Pushmataha	1	D. W. Connally, Antlers
Sequoyah	5	
Seminole	14	N. W. Mills, Seminole
Stephens	1	W. S. Ivy, Duncan
Tillman	1	James D. Osborn, Frederick
	13	James L. Miner, Medical Arts Bldg., Tulsa
Tulsa	3	J. H. Plunkett, Wagoner
Wagoner	2	John L. Day, Supply
Woodward		

Information From Questionnaires Transferred to Cards

The American Medical Association's committee on medical preparedness announces that on Dec. 19, 136,727 physicians had returned their schedules to committee headquarters.

The information on the returned schedules is being transferred to punch cards as rapidly as possible. On December 18, 108,000 schedules had been prepared for punch card operators. The first transfer of selected information from punch cards to listing sheets was completed in November for the first 47,000 cards punched.

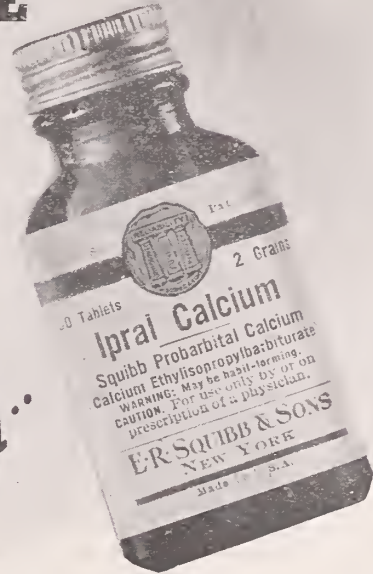
If the Committee on Medical Preparedness is to provide the Surgeon Generals of the Army, Navy and Public Health Service with complete and reliable information concerning the number, location, age, qualifications and availability of medical personnel, when requested, it must have a punch card for every known Doctor of Medicine in the United States.

During the next three weeks, a drive by the Association's committee will be made to complete the schedule on those doctors in Oklahoma who the American Medical Association's records show as not being on file. Since this is a patriotic move on the part of the doctors of medicine in the United States, it is sincerely hoped that complete cooperation will be given by those contacted.

It may be that many of those who, according to the American Medical Association records, have not completed their schedules will be of the opinion that they have completed and mailed their questionnaires but since in the filing of these, some may have been inadvertently mislaid or lost in the mail, those contacted should cooperate with the committee by filling out a duplicate. One change has been made in the method of the committee pertaining to the schedules. In the future schedules should be mailed back to the office of the Oklahoma State Medical Association rather than to the American Medical Association.

Although no deadline has been set in which all schedules should be in the committee's hands, it is believed that in most instances, the work should be completed by Feb. 1.

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To assure patients of a sound restful sleep closely resembling the normal, many physicians prescribe Ipral Calcium—a dialkyl barbiturate. The action of Ipral Calcium is classified between preparations of rather prolonged action and those of relatively brief effect. As a sedative and in cases of ordinary sleeplessness, one or two 2-gr.

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For literature address the Professional Service Department, 745 Fifth Avenue, N. Y.

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Navy Medical Corps Merits Praise For Work in Squalus Disaster

A declaration that the three Navy Medical Corps officers and the Hospital Corpsmen in attendance during the rescue operations involved in the submarine Squalus disaster in 1939 should also receive governmental awards which were given nonmedical personnel was made in the Dec. 7 issue of The Journal of The American Medical Association.

The Journal pointed out, "The saving of the men on the Squalus was possible largely because of some extraordinary scientific investigations made by members of the United States Navy Medical Corps in the years since 1932. In those investigations Lieut. Albert R. Behnke contributed notably. A series of papers has been published in the United States Naval Medical Bulletin. These investigations, which are concerned with a determination of the cause of accidents with the submarine escape apparatus, the narcotic (sleep or stupor producing) action of nitrogen, the development of the use of helium, improvements in the decompression tables, the development of an effective method of utilizing oxygen in the treatment of air embolism (blocking of an artery or vein by an air bubble) and the discovery that the diffusion of helium through the skin may be used as a measure of peripheral (skin) circulation are all fundamental contributions, on which rescue work such as that involved in the saving of the men on the Squalus must be based.

"Significantly, in all of these investigations, involving more than 25 individual contributions to scientific medical literature, the physicians have themselves submitted to various tests before any enlisted men were permitted to volunteer for such a purpose. The value of their work is shown by the fact that only two minor cases of bends developed out of 640 dives, whereas bends occurred almost daily in previous rescue work even though the depths were much less.

"The story of the salvaging operations on the U. S. S. Squalus was published in the United States Naval Medical Bulletin for Oct. 1939. The Squalus disaster provided a crucial test for the preparation which Navy medical officers had made over a long period of time. The medical discoveries already mentioned were supplemented by some engineering innovations involving the fabrication of fireproof, electrically heated garments for cold-water diving, improved recirculation of gas through the diver's helmet and the perfection of telephone communication. Indeed, these also were medical as well as engineering problems before they were finally perfected by the engineers. It was found that diving in semidarkness to a depth of 240 feet for the purpose of tunneling under the submarine and attaching hoses was too dangerous when divers breathed air. The accumulation of carbon dioxide and nitrogen narcosis (unconsciousness) impaired neuromuscular (nerve and muscle) coordination to such an extent that simple tasks could be carried out only with great difficulty. The substitution of helium for nitrogen in the air minimizes the narcotic symptoms associated with air breathing under pressure. Substitution of oxygen for air or a helium-oxygen mixture in the lungs allows excess nitrogen or

Opportunities for Practice

An excellent location and opportunity to build up a good practise for a graduate who is not yet settled in some other community has been brought to the attention of the Executive Office of the Association.

Any physician interested should get in touch with Mr. E. D. Spears, Hulbert.

A nice location that promises a good income is offered to a suitable doctor interested in a country practise. According to word which reached this office, collections are good and this is a real opportunity for a physician wanting to work and make a comfortable income. Offices with a dentist are available.

Any physician who is interested should write or contact either Mr. G. W. Edwards, Leedv, Oklahoma or Mr. F. R. Gale, First National Bank, Leedy, Oklahoma.

Add to Opportunities for Practice

The executive office has received word there is an excellent opportunity for at least eight months' employment as a physician to a construction company in Oklahoma. Full information relating to duties and the salary may be obtained upon application. Any physician interested is asked to communicate with Dr. F. W. Hammond, Suite 322½ C Avenue, Lawton, Oklahoma.

helium gas to diffuse from the body at a maximum pressure head."

In conclusion, The Journal comments that "The reticence of the medical profession in seeking rewards for such service is proverbial. In this instance, when the attention of all the world was focused on the plight of the men who sank in the Squalus, when it is recognized that only years of preliminary efforts on the part of medical investigators in the United States Navy made possible the salvaging of those who were saved, when it is recognized that these men in person and the Hospital Corpsmen who were associated with them were in attendance on the actual salvaging operation, neglect to give them the type of special award given to the nonmedical personnel is so evident as to demand this statement.

"Organizations which know how to impress their opinions on governmental officials might well adopt official actions to indicate their belief in the justice of the claims of these men to governmental recognition."

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CHEMISTS TO THE MEDICAL PROFESSION

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New Periodical on Medicine Will Be Published

"Beginning in January, the American Medical Association will publish a new periodical: 'War Medicine,' as a part of its contribution to the preparedness program," The Journal of the Association announces in its Dec. 14 issue.

"The editorial board of the publication will be the Committee on Information of the Division of Medical Sciences of the National Research Council. This committee includes Dr. Morris Fishbein, Editor of The Journal, as chairman, and the following associate editors: Mr. J. R. Bloomfield and Drs. John F. Fulton, Richard M. Hewitt, Ira, V. Hiseock, Sanford V. Larkey and Robert N. Nye. In order to have direct cooperation with the governmental services, the following representatives of the Army and Navy Medical Corps and the United States Public Health Service have been chosen to cooperate with this editorial board: Col. C. C. Hillman, Com. Charles S. Stephenson and Dr. R. R. Spencer.

"The Division of Medical Sciences of the National Research Council has developed a number of scientific committees which are actively at work preparing reports of various phases of medical service under military conditions. These official documents will be available to the new periodical for prompt publication. Already reports on chemotherapy (chemical treatment), the standardization of the treatment of pneumonia, numerous problems concerned with medicine in aviation, peripheral nerve (other than the spine and brain) injuries, wound treatment, gas gangrene and similar subjects are being made available.

"The American Medical Association, through its Committee on Medical Preparedness, is concerning itself with all the questions of personnel for preparedness and for military service. The official reports of this committee will also appear in the new periodical as well as special considerations that are given to economic and social problems of the medical profession in relationship to the emergency. Of especial importance also are the reports of official committees of the American Medical Association, such as the Council on Medical Education and Hospitals, the Council on Industrial Health and similar groups which will also be concerned with these problems.

"Finally, much material is being developed by the Coordinating Committee on Medicine and Health of the Council on National Defense and by many other governmental agencies which are considering the national nutrition, the provision of hospital services and similar questions closely related to preparedness and defense.

"The new publication will appear as a bimonthly. The Board of Trustees of the American Medical Association, which has authorized its publication, has estab-

lished a price of \$5 annually for the subscription. The periodical should be useful not only to the government services, which have indicated their wish to subscribe to this periodical for the official departments, but also to libraries and to individual physicians."

Annual Forum on Allergy Meets

Physicians from over the United States met the 11th and 12th of this month in Indianapolis, Ind., for the Third Annual Forum on Allergy. Topics presented were those chosen by physicians present at the Chicago meeting the preceding year.

The meeting included study groups; a symposium on bronchial asthma, B. Z. Rappaport, M. D., Chicago, moderator; a symposium on allergic headaches, Theodore Squire, M. D., Milwaukee, moderator; a symposium on insects as allergens, Harry Huber, M. D., Chicago; question and answer periods; and the annual smoker with informal discussion and demonstrations.

Special lectures were: "Allergic Manifestations in the Eye" Albert D. Ruedemann, M. D., Cleveland Clinic; the annual forum lecture, "Allergy, Hypersensitiveness and Immunity," Dr. Bela Schick, N. Y.; and "Water and Electrolyte Metabolism in Allergy," M. M. Cook, M. D., St. Louis.

Announcement of Van Meter Prize Award

The American Association for the Study of Goiter again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The Award will be made at the annual meeting of the Association which will be held at Boston, Massachusetts May 26th, 27th and 28th, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten double spaced copy sent to the Corresponding Secretary, Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pennsylvania not later than April 1st.

The Committee, who will review the manuscripts, is composed of men well qualified to judge the merits of the competing essays. Dr. Brien T. King of Seattle, Washington received the Award for the year 1940 in recognition of his essay entitled "A New and Function-Restoring Operation for Bilateral Abductor Cord Paralysis."

A place will be reserved on the program of the annual meeting for presentation of the Prize Award Essay by the author if it is possible for him to attend. The essay will be published in the annual Proceedings of the Association. This will not prevent its further publication, however, in any journal selected by the author.

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BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

METHODS OF TREATMENT, By Logan Clendenning, M. D., Clinical Professor of Medicine, Medical Department of the University of Kansas; Attending Physician, University of Kansas Hospitals and Edward H. Hashinger, A.B., M.D., Clinical Professor of Medicine Department of the University of Kansas; Attending Physician, University of Kansas Hospitals; Attending Physician, St. Luke's Hospital, Kansas City, Mo. With Chapters on Special Subjects by J. B. Cowherd, M.D.; Leland F. Glaser, M.D.; Thomas B. Hall, M.D.; John S. Knight, M.D.; H. P. Kuhn, M.D.; Paul H. Lorhan, M.D.; F. C. Neff, M.D.; Don Carlos Peete, M.D.; Carl O. Rickter, M.D.; E. H. Skinner, M.D.; O. R. Withers, M.D.; and Lawrence E. Wood, M.D. Seventh Edition. St. Louis, The C. V. Mosby Company. 1941.

This is the seventh edition of this work which speaks for its popularity and this revised edition is brought up to date. Many subjects have been completely rewritten, such as intestinal parasites, extracts of ductless glands, vitamins, allergy, and several other subjects. Many new drugs are considered such as coramine, heparin, benzedrine, dilantin and many of the endocrine products.

This book maintains its usual attractive style and as the former editions have been popular this edition will certainly remain.

A TREATISE ON MEDICOLEGAL OPHTHALMOLOGY, By Albert C. Snell, M.D. Lecturer in Ophthalmology, School of Medicine and Dentistry, University of Rochester; Consultant in Ophthalmology, Strong Memorial Hospital, and Rochester General Hospital; Ophthalmologist, Park Avenue Hospital, Rochester, New York; Member of the American Ophthalmological Society; Fellow of the American College of Surgeons, the American Medical Association, and the American Academy of Ophthalmology and Otolaryngology. Illustrated. St. Louis. The C. V. Mosby Company. 1940.

Since 1902 there has not been published in book form any complete treatise on visual economics. Neither is there any book which deals extensively with medico-legal ophthalmology. Consequently this work will be very acceptable to those interested in this subject. The first part of the book deals with medical jurisprudence and analysis of compensation laws so related to visual disability. Part two deals with the valuation of these disabilities, and part three with practicality of the visual efficiency computation to medicolegal practice. The subject seems to be thoroughly covered in this book.

PHYSICAL DIAGNOSIS BY ELMER AND ROSE, Revised by Harry Walker, M.D., F.A.C.P., Associate Professor of Medicine, Medical College of Virginia, Richmond, Va. With 295 illustrations. Eighth Edition. St. Louis. The C. V. Mosby Company. 1940.

This is the eighth edition of this work and carries out practically the same general plan as the former edition. Part one is on the technique of physical examination and normal physical diagnosis while part two deals with the physical diagnosis of disease and it is so divided into forty seven chapters that ready reference is obtainable.

This is a standard work and the new edition will be received with pleasure by the profession.

BELLEVUE, By Lorraine Maynard, in collaboration with Laurence Miscall, M.D. Pp. 280. New York: Julian Messner, Inc., 1940.

Here is a very readable book about the world's most interesting hospital. While it was written primarily for the layman, it contains much that the average doctor should know. It is not only of historical interest, but contains many interesting episodes, driving home the importance of the art of medicine. The modern methods and techniques stand in striking contrast to the procedures in vogue 50 to 100 years ago. The book makes plain the varied duties of interns and nurses, and the wide scope of knowledge demanded of them today.

There is a wealth of human interest stories which not only show "how the other half live," but how disease and catastrophe bring to light the devious ways of human derelicts. The evil effects of compensation laws upon certain individuals are clearly revealed through the inscrutable psychological reactions of the patient and the doctor's inability to interpret subjective symptoms without qualification.

The evil possibilities of socialized medicine are referred to and the varied advantages of any great charity hospital not under bureaucratic control are pointed out. It serves not only as a haven for the poor, but a protection to all classes and as a means of practical training for doctors and nurses.

Throughout the book the reader will find a refreshing blend of comedy and tragedy, characteristic of life, so colorful and complex, when touched by affliction.

The historical background against which the present efficient service stands in bold relief, shows how bureaucratic domination hampered the functions of a great institution and retarded progress. A book you should read and pass on to your patients and friends.

PSYCHOBIOLOGY AND PSYCHIATRY, A Textbook of Normal and Abnormal Human Behavior. By Wendell Muncie, M.D., Associate Professor of Psychiatry, Johns Hopkins University; Assistant Psychiatrist, Henry Phipps Psychiatric Clinic, Johns Hopkins Hospital. With a Foreword by Adolf Meyer, M.D., LL.D., Sc.D., Henry Phipps Professor of Psychiatry and Director of the Department of Psychiatry, Johns Hopkins University. With 69 illustrations. The C. V. Mosby Company. 1939.

This book covers the conceptions, teachings and working methods of the Henry Phipps Psychiatric Clinic at the Johns Hopkins Hospital.

The text is aimed primarily for the use of students but will certainly be of marked interest to the neuro-psychiatrist. The author was associated with Dr. Adolf Meyer and has carried out in the text the teachings of his preceptor.

Medical Education Congress Date Set

The Thirty-Seventh Annual Congress on Medical Education and Licensure, conducted under the auspices of the Council on Medical Education and Hospitals of the American Medical Association, will be held at the Palmer House, Chicago, Feb. 17 and 18, *The Journal* of the Association announces in its Nov. 9 issue. During the Congress special consideration will be given to the relationship of the medical profession to national defense.

ABSTRACTS : REVIEWS : COMMENTS and CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments From
LeRoy Long Clinic

714 Medical Arts Building, Oklahoma City

"Venom in the Treatment of Arthritis, Arthralgia, Neuritis and Allied Affections." By Paul Butler, M.D., Orlando, Florida. The Journal of the International College of Surgeons, August 1940, Volume III, Number 4, page 357.

It has been recently shown that cobra venom has a higher analgesic action than morphine in many people, and it has thus been assumed that cobra venom has a greater analgesic value than any other zootoxin. The author states that there are several snakes whose venoms have a greater analgesic effect than that of the cobra.

The author has used a concentrated and purified solution of copperhead venom in his experiments. The venom is obtained from freshly captured snakes. Snakes long in captivity cannot produce good quality venom.

The venom is always given intradermally, as it is essential that it be absorbed into the vascular system as slowly as possible.

The author states that he has obtained material benefit in 90 per cent of his cases; symptomatic cures in 85 per cent of the cases; and demonstrable cures in 66 per cent of all cases. In this article he presented 25 typical cases, 2 of which were herpes zoster with good results in all cases.

Comment: This report sounds too good to be true, but we have seen some wonderful results from the use of cobra venom for the relief of intractable pain, so we have an open mind concerning this author's good results. Any form of medication which will relieve the pain of an old person with chronic arthritis or neuritis should certainly be given due consideration.

Warren Poole.

"Pilonidal Sinus." By C. M. Burgess, M.D. Honolulu, T. H. Western Journal of Surgery Obstetrics and Gynecology, September 1940, Volume 48, No. 9, page 581.

The author presents the theory of Gage as the most practical theory concerning the primitive origin of pilonidal cysts and sinuses. According to this theory, there are two primordial tissues responsible for the clinical pilonidal cyst. The first, the forerunner of the dimple or dimple sinus, is derived from anomalous development of the caudal ligament and its attachments to the skin. The second, the forerunner of the cyst, is derived from the caudal end of the neural canal. The epithelial lining of the cyst may contain hair follicles, but this follicle bearing tissue gradually changes to tissue that contain neuroglia cells as the dura is approached.

The author has treated 14 cases in 1938 and 1939 in per cent of all newborn infants have some malformation of the skin in the sacrococcygeal area, and that 3 to 4 per cent of these congenital anomalies go on to produce signs and symptoms which cause them to ultimately seek treatment. It is the complications of pilonidal sinuses and cysts, and not the lesion per se that causes the patient to seek treatment.

The primary objective of any form of treatment is to cure the patient permanently in as short a time as

possible. The treatment proposed by the author is as follows: When first seen the abscess is incised and the patient told to return in two or three weeks or after there is no tenderness or soreness, for his operation. Spinal anesthesia is used. A minimum amount of normal tissue is removed surrounding the cyst, the buttocks being held apart to insure adequate exposure. The skin margins are undermined. Silk is used throughout. The dead space is obliterated by using compression bandages and by strapping the buttocks together. The patient is placed in a prone position for the first 48 hours after the operation to prevent infection from the anus by perspiration.

The author has treated 14 cases in 1938 and 1939 in the above manner with an average healing time of 8.8 days. His last three cases were healed in 5.3 days. There have been no recurrences.

Warren Poole.

"Cause of Death in Cases of Mechanical Intestinal Obstruction. Consideration of Certain Confused Issues and Review of Recent Literature." By Edward L. Besser, M.D., Iowa City. Archives of Surgery, October 1940, Volume 41, Number 4, Page 970.

A study of the literature on the cause of death in cases of intestinal obstruction shows confusion and conflicting opinions concerning many phases of the problem.

In most instances of clinical obstruction and in the various types of experimental obstruction, death occurs before gross perforation of the intestine has taken place, and under these circumstances the cause of death cannot be satisfactorily explained by the autopsy.

The course has been described as that of "toxemia," and for many years it was generally accepted that the cause of death from all types of obstruction was the absorption of some toxic substance from the gastrointestinal tract. However, recent studies have suggested that different types of obstruction may cause death by different mechanisms.

The author's general summary of this paper is as follows: "Attention is called to the fact that different physiologic and pathologic alterations take place under the conditions of different types of intestinal obstruction. The preponderance of evidence suggests that death in cases of high obstruction is due to the loss to the body of the secretions of the upper part of the intestine, the essential constituents being water and sodium chloride. Support for this contention is found in the fact that life can be markedly prolonged by replacement of these substances and only these substances. Experiments in which the intestinal secretions were short circuited around the obstruction substantiate this postulate, as does the fact that high intestinal fistulas cause a similar picture and respond in a similar manner.

In the presence of low intestinal obstruction there is opportunity for reabsorption, and, although dehydration and electrolytic loss may explain death in some instances, these factors do not seem adequate to explain death in the majority of instances. The general consensus is that death occurs as the result of absorption of toxic materials. Many investigators have contended that toxic absorption does not take place until there are definite microscopic changes in the intestinal mucosa. However, others have felt that selective absorption of the mucosa may be altered before visible evidence of pathologic alteration takes place. Recent studies have been reported,

indicating that death in cases of low ileal obstruction occurs in the absence of marked changes in the intestinal mucosa. It has been suggested that electrolyte loss and dehydration may have been factors in the instances in which mucosal changes were not evident, although this has not been definitely established. The majority of experiments support the contention that there is no transperitoneal absorption or "Direct permeation" of the intestinal wall as long as it is viable. Increased intraintestinal pressure tends to decrease absorption of substances normally absorbed by the intestine and has not been shown to cause absorption of most substances that are not normally absorbed. However, a few recent experiments have shown that increased intraintestinal pressures were associated with abnormal absorption of *Cl. botulinum* toxin in dogs and of horse serum in guinea pigs. Lymphatic absorption is increased in the presence of obstruction, and certain dyes that are not normally absorbed are absorbed by the lymphatics under the conditions of obstruction. There is no conclusive proof that absorption of a lethally toxic material occurs by this route. In general there is no satisfactorily substantiated evidence of toxic materials in the body fluids in cases of low ileal obstruction. Animals with low ileal obstruction die in a state of "shock." There is a decrease in blood and plasma volume which is certainly of some consequence, but the precise role that these factors play is not definitely known.

Recent experiments have shown that normal intestinal contents may be as toxic as obstructed contents, or more toxic. The normal combined pancreaticoduodenal secretion per se is highly toxic. Although the nature and origin of the toxic material in obstructed contents is not clear, reasons are given for the belief that the pancreaticoduodenal secretions play a secondary role in respect to the toxicity of the material collected above a low obstruction. The preponderance of evidence suggests that the toxicity of this material is dependent on bacterial activity, and, although multiple toxins may be involved, part of the toxicity seems to be caused by the presence of histamine or a closely allied substance.

In strangulations of long loops the preponderance of evidence shows that the fluid loss per se may be great enough to cause death. However, with short loops and with death occurring before perforation, the fatal issue is probably due to absorption of a toxic material which is formed by the action of bacteria on the nonviable tissues of the intestinal wall. Although some experiments have been cited in which the peritoneal fluid was reported not to be toxic, a number of investigators have found toxic material in the peritoneal transudates. The nature of these transudates and their degree of toxicity have been variable. Histamine and comparable substances have been found in these transudates and cause depressor effects on blood pressure. No one substance has been proved sufficient in itself to cause death."

Comment: The author has made an exhaustive study of this moot question. His conclusions, in light of present knowledge, are logical and are probably accepted by most of us who have been intensely interested in the question as to what is usually the immediate cause of death in patients who have mechanical intestinal obstruction.

LeRoy D. Long.

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M. D.
911 Medical Arts Building, Tulsa

"Temporary Myopia Due to Sulfanilamide." J. H. Bristow, M.D., Monroe, Wisconsin. Archives of Ophthalmology, October, 1940.

This is a case report of an individual whose visual acuity was reduced in a space of a few hours from

20/15 to 20/300. This is a startling occurrence, to both physician and patient. The usual ocular manifestations of sulfanilamide toxicity are inflammatory reactions to the lids and conjunctiva. In the case reported the pathologic process was undoubtedly an edema of the lens, producing a myopic eye.

This is a case of a lady whose chief complaint was frequent and burning urination; cystitis her first attack; white, age 21, weight 120 pounds. Fifteen grains of sulfanilamide was given every six hours. Forty-eight hours later her urinary symptoms had subsided but she complained of malaise. She was instructed to continue the medication for 48 hours and return. On her return the urinalysis was negative and the sulfanilamide was discontinued. Three days later she complained of numbness and tingling of the feet and insomnia; W.B.C. 2,550; urine normal. Two days later W.B.C. was 5,550. About three weeks later the cystitis recurred; W.B.C. at this time was 7,350. Due to the fact that she had experienced some untoward symptoms with sulfanilamide, she was put on 10 grains of neoprontosil every six hours. She took six tablets. The next morning she had nausea and dizziness, lassitude and blurring of distant vision.

Ophthalmoscopic examination at this time was essentially negative. Visual acuity was 20/300 ou. V.O.D.—2.00-50ax90 gave 20/15. V.O.S.—3.00-25ax145 gave 20/15. There was not any muscle imbalance. Cycloplegic and manifest were identical. Two days later she was seen again; W.B.C. 6,400; 24 hours later W.B.C. 3,250. Three days later the cystitis had disappeared. A little over two weeks later the W.B.C. was 4,050 and her visual acuity was 20/15 ou. She has been seen several times since and no permanent damage appears to have been done.

"Ophthalmoplegic Migraine." Alfred J. Elliott, M.D., New York, N. Y. Original Paper in the Canadian Medical Association Journal, September, 1940; pp: 242-244. This abstract published in the November Issue of the Digest of Ophthalmology and Otolaryngology.

In 1890 Charcot defined the term, ophthalmoplegic migraine, as a condition associated with migraine in which there is a palsy of an ocular nerve, usually the third, which is temporary at first but later becomes permanent. The disease is apparently rare in general medical practice. In an analysis of 29 cases of ophthalmoplegic migraine appearing in the literature Moebius states that only 4 presented a history of headache in any other member of the family.

Moebius draws attention to the fact that the pain of ophthalmoplegic migraine is usually felt deeply behind the eye, in the eye itself, or just over the eye. The pain is not a true neuralgia. It is almost uniformly confined to one side of the head, and usually appears on the same side of the head as the ophthalmoplegia, although occasionally the headache is bilateral. If the headache continues for any length of time, nausea and vomiting regularly make their appearance. Dizziness may be associated with the headache. The headache usually precedes the onset of the extra-ocular muscle paralysis, the latter coinciding with the subsidence of the headache, or, more rarely, from one to ten days after the cessation of the headache.

Various combinations of disturbances in the third, fourth, and sixth cerebral nerves may be demonstrated. Occasionally all of them may be involved, presenting a complete external ophthalmoplegia. When these disturbances affect the third cerebral nerve the paralysis may involve both the internal and external musculature with all of the accompanying symptoms. The internal musculature may alone be involved, the change resulting in difference in size of the pupil and loss of accommodation.

Involvement of the centres for convergence and divergence has been described by various authors, the re-

sulting diplopia appearing either on the attempt to look at objects close or at a distance.

It is usual for the paralysis to pass off in the earlier attacks, but gradually the condition becomes permanent. The period of involvement persists from a few days to many months. With the continued recurrence of the ophthalmoplegic attacks, the duration of the weakness tends to increase, and residual disturbances of greater or less extent continue into the period between the attacks. With frequently repeated recurrences certain muscles may become permanently paralyzed.

The usual visual disturbances of migraine may occur. Homonymous field defects are common. In unusual instances the scotoma or the hemianopsia may persist for several weeks or may, in extreme cases become permanent.

Theories For The Causation of Ophthalmoplegic Migraine:

Hypophyseal Theory—This theory is based upon the occurrence of transitory swelling of the hypophysis cerebri, a type of angioneurotic edema. Such swellings may be sufficient to produce pressure on the cavernous sinus and the nerves connected with it, thus producing the symptoms and signs characteristic of the ophthalmoplegic and ophthalmic types of migraine.

Vasomotor Theory—The theory that vasomotor changes are responsible has much to be said in its favor. Vasomotor changes are transient. They usually leave, at least at first, no residual damage in other parts of the body, and yet it is true that trophic or nutritive damage of a permanent sort may be done by vasomotor changes. Tzanek assumed that migrainous headache arises from spasm of the cranial arteries following excessive autonomic nerve excitation.

Treatment—Tzanek advocated the use of ergotamine tartrate, an alkaloid of ergot. In simple migraine he stated the headache was relieved. He advised the use of 1 mg. tablets twice a day by mouth, which may be increased to six times a day, or the subcutaneous injection 0.5 mg. twice a day. Graham and Wolff conclude that this beneficial action of ergotamine tartrate is due to its contraction of the smooth muscle of the arterial walls of certain cranial arteries which are painfully stretched and dilated during a migrainous attack. Thus the amplitude of their pulsations is reduced. However, Graham reported the use of ergotamine tartrate in a case of ophthalmoplegic migraine and stated that the headache had not been relieved.

"Homotransplantation of Preserved Cornea." Max Fine, M.D., San Francisco. American Journal of Ophthalmology, October, 1940.

This is a subject that has received a great deal of attention in the scientific and lay press. The author makes a comparison of blindness in the U.S.S.R. and the U.S.A. It is found to be much more prevalent in the U.S.S.R. He estimates that there are probably 10,000 individuals in the United States that would probably benefit from keratoplasty.

The procuring of suitable corneal tissue for keratoplasty is sometimes difficult but the author has found that in his work many more eyes with useful corneas are enucleated than there are suitable cases for transplantation. So it became a matter of waiting for the enucleation case when a proper case for transplantation was found. However it would be much more convenient if it were possible to use the cornea of a cadaver. To this end the author experimented and found that:

"The results of a limited, controlled experiment suggest that corneal tissue used immediately after removal of the eye or the death of the animal is superior for optical keratoplasty to tissue that has been preserved for more than 24 hours at low temperatures. Cornea that was preserved for 24 hours gave results which approached those obtained with "fresh" cornea, but the preservation of cornea for 48 hours or more definitely jeopardized the chances for successful transplantation.

The reported results of optical keratoplasty in man likewise indicated that superior results have been obtained with "fresh" material. Until more conclusive evidence of the superiority of preserved cornea for keratoplasty is forthcoming, the conservative surgeon will choose to use fresh tissue, if it is available, or tissue preserved for a minimal length of time. The experiences of surgeons in other branches, and the precepts of physiology and pathology will support his choice."

"Acute Suppurative Mastoiditis, Sulfanilamide Therapy, Agranulocytosis and Death." Joseph Kasnetz, M.D., Brooklyn. Archives of Otolaryngology, October, 1940.

This is a case report of the first death in acute suppurative mastoiditis treated by sulfanilamide. It is interesting due to the fact that we have heard so many good reports on the use of this drug in ear infections. This will call attention of the otologists to the fact that the drug is also dangerous.

This case is a woman, age 45, with continuous otalgia on the right side for eleven days, otorrhea for nine days, severe headache for two days before entering the hospital; temperature 101 to 103 F.; myringotomy performed twice; excruciating pain behind the ear and periodic chills. After forty-eight hours of sulfanilamide therapy and no improvement, a simple mastoid was done. For four days following the operation no improvement took place, the temperature remained elevated to 103 F. On the fifth day postoperative the mastoid was inspected and no additional pathology found. A spinal puncture was done and no great amount of pathology found. The temperature dropped to normal and remained so for the next ten days. Sulfanilamide was discontinued after four days of normal temperature. A transfusion of 300 cc. of whole blood was given for extreme weakness and secondary anemia. The patient continued to improve steadily and about two weeks after operation when the dismissal of the patient from the hospital was being considered, an erythematous rash appeared over the upper and lower extremities. Herpetic eruptions appeared on the upper lip; temperature 105 F; tonsillar fauces appeared ulcerated. Completed examinations showed no organic findings. Blood examination showed an agranulocytosis. Another transfusion of 300 cc. of whole blood was given. Three days later the patient died with a pulmonary edema associated with cardiac collapse.

Sulfanilamide given was as follows: 40 grains a day for the first fourteen days; 80 grains per day for the next six days; 30 grains per day for the next six days; a total of 80 Gm.; toleration was apparently good as the patient did not show any sign or symptoms of idiosyncrasy; blood counts were done at frequent intervals. The patient died from agranulocytosis which developed six days after cessation of administration of the drug. Culture of the pus from the infection showed *Staphylococcus aureus* and *Streptococcus haemolyticus*.

CARDIOLOGY

Edited by F. Redding Hood, M. D.
1200 North Walker, Oklahoma City

"Concepts of the Treatment of Hypertension." I. L. Robbins, New Orleans Medical and Surgical Journal, 92:375 (January) 1940.

Essential hypertension is a syndrome in which the normal blood pressure of 150-160 systolic and 90 mm. of mercury diastolic are exceeded. Of insidious onset and variable course, it is for a long time asymptomatic and its presence only accidentally discovered. Early symptoms are few, vague and mild. Periods of remission occur in which progress is exceedingly slow to

stationary, but the advance of the disease is inevitable. Exacerbations follow and during these periods, symptoms few to many, and mild to severe, are present. Early, the blood pressure is moderately elevated and labile. Normal fluctuations occur under basal conditions, but as the disorder continues, the pressure tends to higher elevations, fewer fluctuations and more fixation. The heart, brain, kidneys, retina and vascular apparatus reveal no impairment of adequacy in the early stages but later, dysfunction and finally failure of one or more of these vital organs results. The symptomatology grows progressively more constant and distressing and eventually invalidism and death are the outcome.

Essential hypertension may be classified into four groups, based on the stage of the disease.

Group 1—Normal hyperreactors and extremely early cases. The prognosis is excellent.

Group 2—Early to moderately advanced cases. The prognosis is good. Groups 1 and 2 have no anemia.

Group 3—Moderately advanced to advanced cases. Anemia occurs in 50 per cent of these. The prognosis is serious.

Group 4—Advanced cases. Anemia occurs in 65 per cent of these. This group includes the malignant hypertensives. The prognosis is bad.

Of the mild cases, all ages, comprising Groups 1 and 2, 90 and 100 per cent have no symptoms or are readily relieved. Seventy-five per cent of the moderate cases, all ages, have no symptoms or can be relieved. Of the severe cases over 45 years of age, 30 per cent may obtain a substantial fall in the blood pressure; 40 per cent symptomatic relief, and 30 per cent with marked and irreversible changes, no possible amelioration of symptoms. While this grouping clarifies the problem it must be understood that concomitant arteriosclerosis of the aorta and large vessels will alter the course and profoundly influence the effect of treatment.

Treatment of hypertension may be considered under five major divisions:

1. Prophylaxis.
2. Medical treatment of hypertension, per se.
 - a. In general.
 - b. In crises (paroxysmal high rises in blood pressure).
3. Treatment of the cause of hypertension.
4. Treatment of the effects of hypertension.
5. Surgical treatment of hypertension.

The criteria for the diagnosis of hypertension are difficult to ascertain. The variability of the blood pressure under conditions of rest, activity, emotional stress, physical fatigue, seasonal and postural changes, coupled with the insidiousness of the onset and the long asymptomatic course, makes it extremely difficult to place the proper value on any therapy employed in hypertension.

Prophylaxis concerns itself with the removal of physical disabilities and faulty habits of living. All methods removing the stresses and strains of environmental tensions will accrue to the patient's benefit. Eradication of foci of infection and prevention of infectious and contagious diseases of childhood must protect the kidney and so decrease the potential threat to the renal vascular apparatus later in life and defer the tendency for hypertension to become clinically manifest.

Diet. The diet should be wholesome and well-balanced and calorically adequate. Salt and proteins are not contraindicated. Liberal use of fluids and foods rich in iron for anemia are desirable.

General measures. Proper rest, regular bowel function, reasonable exercise, moderate climates are all conducive to the maintenance of arteriolar relaxation. Moderation in all things is the objective to be attained. Patients accustomed to the use of alcohol and tobacco may continue to use them in small amounts. Untoward effects call for their discontinuance.

Physiotherapy. Hydrotherapy, massage, and dia-

thermy have some relaxing value. Lasting and effective reduction of blood pressure and relief of symptoms have been reported by the use of x-ray irradiation of the pituitary and adrenal glands.

Drugs. The important drugs comprise two classes: (1) Vasodilators and (2) sedatives.

The ideal vasodilator remains a pious wish awaiting fulfillment. It should be one that is simple, non-toxic, possessing a steady, moderate, relaxing power and capable of use over an extended period of time. The nitrites are of little value in general management. However in the paroxysms of high blood pressure (the crises) they have a definite place. The prompt and sharp reduction is often sufficient to prevent serious vascular accidents. The iodides are still considered to be of some value.

Recently there has been a resurgence of popularity in thiocyanate therapy. The thiocyanates, sodium and potassium, are vasodilators. The dose varies greatly, ranging from 0.1 to 0.45 gram daily, with a maintenance dose of 1.0 gram a day to 0.3 gram a week. Barker states the drug is safe, if the blood cyanate level is maintained at 8 to 14 mgm. per 100 cc. of blood. It is at this concentration that the drug's hypotensive effect is optimal. The toxic effect is accumulative. The mild toxic symptoms are weakness and fatigue, cramping pains and mild gastro-intestinal complaints. Barker insists that without blood cyanate determinations, the drug should not be used. It has dangerous possibilities."

The sedatives are probably the most valuable drugs in the production of arteriolar relaxation. The bromides and barbiturates are efficient in the relief of restlessness and anxiety in patients with excessive emotional reactions.

Psychologic therapy. This is considered to be of the greatest importance in the hypertensive regimen. The doctor must be tactful and kindly. He must gain the confidence and instill assurance and equanimity in his patients.

The belief that it is dangerous to reduce high blood pressure because it is a compensatory mechanism designed to maintain kidney, heart and brain function is erroneous. Real efficiency is not dependent upon hypertension. It is the relief of renal vascular constriction that improves function.

Treatment of the cause of hypertension. Concerning this, it must be obvious to all that the knowledge of the nature of the mechanism, at the present time, makes this impossible.

Treatment of the effects of hypertension. The discussion will not deal with this phase of the subject. Suffice to say that the same established methods as are used in the treatment of congestive heart failure, cerebral and coronary vascular accidents and uremia, due to other causes, are employed.

Surgical treatment. In recent years surgery has assumed a most significant place in the treatment of essential hypertension. The failure of medical measures and the rapid progress of the disease in some individuals is a sufficient and justifiable reason for surgery. Craig observes that "operation seems most efficacious in the definite vasospastic type of hypertension. As an average rule the patient must be under 50 years of age and the hypertension as of groups 2 or 3." Smithwick in a review of this subject found that good results were obtained only in 40 or 50 per cent of favorable cases and in only 5 to 10 per cent of the advanced cases, but in some of these symptomatic relief was marked. White notes that "it has not yet been established that the expected duration of life in hypertensive patients can be prolonged, even if the blood pressure is reduced." Goldblatt's experiences convince him that hypertension in man is produced by the constriction or the thickening of the wall of the arterioles of the kidney." It is conceivable, at least that some of these vessels are merely in spasm and still under the influence of the nervous

system and that they are therefore in a reversible state and can become dilated as a result of removal of the vasoconstrictor effect. The improvement that occurs from the operation in all probability is, apart from the effect of the enforced rest, due to the improvement of the circulation through the kidneys and not to any effect on the rest of the vasomotor apparatus of the abdomen. Another important development of the surgery of hypertension that may have great potentialities is an outgrowth of the renal ischemic hypertension of Goldblatt. Recalling that the ischemic kidney in animals results in the fall of the high blood pressure to normal, several cases have been reported of the extirpation of a diseased kidney in patients with pyelonephritis and arteriosclerosis with hypertension and in whom the blood pressure made a prompt return to normal.

INTERNAL MEDICINE

Edited by Hugh Jeter, M. D., F. A. C. P., A. S. C. P.
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"Vitamin K in Hemorrhagic Diseases of Infants and Children." By Newton Kugelmass. From the Department of Pediatrics, Bond Street Hospital, New York. American Journal of Clinical Pathology, October, 1940, Volume 10, Number 10.

In this article the author brings out some very pertinent and timely information concerning the prothrombin in health, the nature of human prothrombin, the relation between vitamin K and prothrombin, and prothrombin in disease.

Hemorrhagic diseases of the newborn is considered to invariably be due to prothrombin deficiency in the blood. The author has reported 10 cases, 9 of which showed marked depression in the prothrombin content of the blood with a corresponding lowering in the clotting time, all other clotting factors being normal. He has, therefore, designated this condition as acute hypoprothrombinemia. Mild cases are considered to be self limited, but severe cases respond poorly to all forms of therapy. It is thought that in these cases there is a lowered prothrombin content in the expectant mother's blood. Vitamin K is a valuable adjuvant in the treatment of late or active hemorrhagic disease in the newborn, but therapy should not be limited to vitamin K when the active substance can be injected into the circulation in the form of blood transfusion. Contention that the prevention of hemorrhagic diseases of the newborn will diminish intracranial hemorrhage is only partially true because the former is a disease of the blood and the latter a result of trauma to the vascular system.

Icterus gravis neonatorum is briefly discussed and two cases treated with vitamin K are reported. The clinical course of these cases was favorable in one of the cases and unfavorable in the other. The author considers the low blood prothrombin as a secondary manifestation and liver disfunction being the primary condition.

Pseudohemophilia hepatica—In this rare disease the prothrombin is also diminished. Such a case is mentioned in which hemorrhagic manifestations responded favorably to vitamin K.

Hereditary pseudohemophilia is also mentioned and in this connection the author seems to conclude that vitamin K is not applicable unless there is coincident decrease in prothrombin. The following conclusions are drawn.

Infant's blood is undersaturated in prothrombin until the blood volume attains about a liter and may therefore be increased in concentration by vitamin K administration; but children's blood saturated with prothrombin at the adult level is uninfluenced by vitamin K

administration, hence a diet adequate in milk and leafy vegetables provides ample amounts of this anti-hemorrhagic factor.

Prothrombin deficiency in the blood clotting mechanism is not a determining factor in hemorrhagic diseases of infancy and childhood except in the relatively rare, late or manifest hemorrhagic diseases of the newborn, pseudohemophilia hepatica, icterus gravis neonatorum and occasionally in hereditary pseudohemophilia, the alleviation of which by vitamin K therapy is effective for the former two and possibly for the latter two types of blood disorders.

"Positive Friedman Tests in Non-Pregnant States."

By E. Perry McCullagh and W. Kenneth Cuyler,
Cleveland Clinic, Cleveland, Ohio. American Journal of Pathology, September 1940, Volume 10, Number 9.

In this, the authors bring out the possibility of positive Friedman tests in non-pregnant states and report 241 positives out of 2134 cases. Various conditions are mentioned as positive causes. Menopause, ovarian deficiency in women, diseases of men, endocrine disorders, conditions affecting the nervous system and miscellaneous conditions discussed. The following summarizes their findings.

The Friedman test may be positive in many conditions other than pregnancy or cases in which chorionic tissue exists. The test is useful for determining whether or not there is an abnormally large excretion of gonadotropic hormone in non-pregnant states. It is frequently positive about the time of puberty, possibly for physiologic reasons. It may be positive in psychoses, hysteria, epilepsy, and arterial hypertension in the absence of gonadal failure and may be useful in the differential diagnosis of pituitary cachexia and anorexia nervosa. Primary disease of the pituitary such as acromegaly or pituitary tumor and also organic lesions in the hypothalamus may cause positive tests.

In cases of dwarfism and some cases of obesity such as are usually designated Frohlich's syndrome on clinical grounds, positive tests have occurred suggesting that the gonadal failure present could not be due to deficiency of gonadotropic hormone production and must be secondary to other causes.

Positive tests may be present in hyperthyroidism, diabetes mellitus, and in adrenal cortical hyperfunction either of the functional type or in cases of adrenal cortical tumor.

Gonadal damage in either sex may cause a positive test; thus positive reactions are frequent at the menopause and in women with functional ovarian deficiency, ovarian tumors, or inflammation. Positive reactions are also seen in men with testicular deficiency, cryptorchidism, and in prostatic hypertrophy.

Positive tests have been found also in alopecia areata and in cases of progressive myopia and keratoconus.

When inexpensive and accurate quantitative methods become more readily available, the scope and value of gonadotropic hormone investigation will be greatly increased.

Comment: In our own experience we have had considerably less positives in non-pregnant women.

Laparotomies on all rabbits for careful inspection of the ovary as a control procedure has been the routine practice in our laboratories and weak positives have been repeated. We believe this eliminates a certain, perhaps low, percentage of positives which occur in non-pregnant women. However, we do not intend this comment to adversely criticize the experience of these authors.

UROLOGY

Edited by D. W. Branham, M. D.
502 Medical Arts Building, Oklahoma City

"Gonorrhea In The Male. Results of Treatment With Sulfanilamide." Clinical Lecture at New York Session. A.M.A. Journal 1940. P. S. Pelouze, M.D. et al.

This is an important report as it details the findings of the Cooperative Clinical group from The American Neisserian Medical Society and U. S. Public Health Service on their results as obtained in the treatment of 3,039 cases of gonorrhea with sulfanilamide.

Several definite conclusions were obtained from a careful study of the records submitted by these workers. They can be summarized briefly in the following statements.

Sulfanilamide materially enhances the satisfactory results early in the course of the treatment period.

Sulfanilamide plus local treatment was over six times as effective in producing remission as was local therapy alone in those cases followed during the fifteen to nineteen day interval.

Sulfanilamide alone is only twice as good in obtaining satisfactory results as local treatment.

If less than 400 grains of sulfanilamide was given in twenty-one days, sulfanilamide plus local therapy was no better than local therapy alone. If the amount of sulfanilamide was more than 400 grains in seven days the results were no better than if the amount administered was less than the 400 grains in seven days but more than 400 grains in 21 days.

A two week period of negative two glass tests unsupported by either a negative smear or culture was a poor criterion of good results. Nearly one-third of the patients subsequently had bacteriologic or clinical evidence of the disease. Only 30 per cent of the cases under the best type of treatment obtained a maintained clinical remission of their disease at the end of one round of treatment.

If a patient has not shown a substantial clinical response with the first week of treatment under sulfanilamide it should be discontinued, and further, the administration of sulfanilamide for more than three weeks serves no good purpose. Repeat courses of sulfanilamide are rarely effective after initial clinical failure.

Comment: These reports definitely confirm the fact that properly administered local therapy is still a valuable part of the treatment of gonorrhea.

"Gangrene Of The Scrotum and Repair By A Simple Plastic Operation." Herbert H. Howard, M.D., Boston. Transactions Of The New England Branch Of The American Urological Association, 1939.

A case report of extensive gangrene of the scrotum due to anaerobic micro-organisms which was treated by the use of zinc peroxide paste locally. The paste is made by using one part zinc peroxide to ten parts by weight of water: It is applied as a wet dressing and because of the slow liberation of oxygen, controls this type of infection.

Because of the infection there resulted extensive destruction of the scrotum and it was necessary, that a plastic repair be performed. This was accomplished by tissue flaps from the thigh transferred to the scrotal area and later detached forming a new scrotal pouch, thus obviating scarring and distortion of the perineum.

5,300 Doctors of 9,100 Total Must Be Procured Soon for Army

A total of 9,100 physicians, of whom 5,300 must be procured during the next few months, will be required for the total strength of the army of the United States next spring, which will be approximately 1,400,000 men, the surgeon general of the Army declares in an outline regarding the participation of the Army Medical Department in the 1940-1941 military training program, published in The Journal of the American Medical Association for Dec. 7.

The surgeon general says that the 1,400,000 men will represent a Regular Army of 400,000 officers and men, the National Guard of the several states federalized as the National Guard of the United States, numbering 200,000, and citizens selected for military training during the coming twelve months—about 800,000 in number.

"The Medical Department is charged with providing adequate medical service for the entire Army of the United States at posts, camps and stations within and beyond the continental limits of the United States," he declares. "In each military station in the United States there will be a hospital with four beds for each hundred of the military population. The operating room, kitchen, messing facilities and clinics in each of these hospitals will be of sufficient size to provide service for an additional patient per hundred men so that in an emergency it will be necessary to construct only the additional ward buildings. Furthermore, there will be general hospitals suitably located throughout the United States to provide an additional bed per hundred thousand of the military population.

"The provision of 5 per cent of hospital beds which can be rapidly expanded to 6 per cent may appear excessive when compared with hospitalization provided for the civilian population of this country. However, all of the military sick, including such cases as in civilian life are ordinarily cared for in their homes, must be treated in hospitals, since they cannot receive satisfactory care in the barracks. In addition, when young adults are brought together in large groups, contagious and infectious diseases that spread rapidly under such conditions occur much more frequently than in civil life. Furthermore, sufficient beds must be provided for the care of the sick during the winter and spring seasons of the year, when there is always an excessive number of such cases.

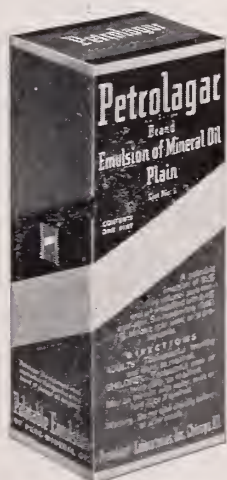
"The Medical Department will be charged with the training of the medical detachments and the medical department units of the Regular Army and the National Guard, and with the instruction of the service personnel in hospitals and other installations. It is also responsible for the preparation of the trainees in enlisted replacement centers, in hospitals and in service schools, who will receive there the individual Medical Department instruction which will permit their incorporation in organizations for further unit training.

"The initial requirements will be approximately 6.5 doctors for each thousand men in the military service. Rapid calculation will show that the total number for an army of 1,400,000 men will be 9,100 doctors. Additional ones may be required, but in the interest of economy the initial procurement will be limited to the number stated. The 1,200 physicians in the Regular Army and the 1,100 in the National Guard are included in the total, leaving approximately 6,800 physicians to be supplied by the Reserve Corps. There are now in active service or under orders approximately 1,500 Reserve physicians, leaving 5,300 to be procured during the next few months."



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The Perforated Peptic Ulcer*

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Sixty-five cases of perforated peptic ulcer were studied. The diagnosis was corroborated either by surgery or autopsy. These cases were encountered during the course of approximately eighty thousand hospital admissions. By far the majority of all perforated gastric ulcers are situated on or in close proximity to the lesser curvature. In descending order of frequency are those ulcers of the posterior wall, anterior wall, greater curvature, body and cardiac end of the stomach. (Table VI). The majority of the duodenal ulcers are confined to the first part, rarely being found more than five centimeters from the pylorus. (Table VI) In about one-fifth of the peptic ulcer cases multiple ulcers of the stomach and the duodenum are present at some time. Accordingly multiple perforations may be present, though not seen in this series.

An acute ulcer or erosion may occur in any portion of the stomach. (Table V) Such an ulcer may vary in size from a minute defect to a lesion an inch or more in diameter. While an ulcer does not often progress beyond the musculature, occasionally rapid digestion carries the process to a perforation within a few days of formation. As an example, eleven of the sixty-five cases had had no gastrointestinal symptoms prior to the catastrophe. (Table IV) Perforation may occur as a result of distention of the stomach in the presence of an advanced ulcer. In one of these cases the patient had had his first

symptoms for ten days and suffered the perforation while drinking water.

However in most instances the perforation is a complication of a more or less chronic peptic ulcer. Forty-four patients had had ulcer symptoms longer than two months. (Table IV). The penetrating chronic ulcer reaches the serosa and results in a symptomatology dependent upon the ulcer location. Should the perforation gain access to an exposed peritoneal surface, peritonitis rapidly ensues. In the subacute perforation there has formed about the slowly penetrating ulcer, a protective wall of adhesions, omentum and adjacent structures. An abscess may occur. When of a chronic nature the perforation encounters an adjacent organ as the pancreas or the left lobe of the liver and is well circumvented. Occasionally an internal gastric fistula is formed between the stomach and the bowel. In one case a gastrocolic fistula was found at autopsy. Rarer sequelae include penetrations of the diaphragm into the chest cavity, into the gall bladder, through the abdominal wall or even the umbilicus.

TABLE I
Age Incidence

Age	No. of Cases
0-21	2
21-31	9
31-41	20
41-51	20
51-61	8
61-71	5
71-81	1

*Presented at the Oklahoma City Clinical Society, October 31, 1940.

The perforated peptic ulcer may occur at any age but is most common in the third and fourth decades. Of the sixty-five patients, forty presented and were equally distributed in the two ten year groups from thirty to fifty. The youngest was nineteen and the oldest seventy-six years of age. Lee (1) has reported a case of this condition occurring in the fetus.

TABLE II
Occupational Trend

Occupation	No. of Patients
Business	8
Professional	6
Laborer	38
Farmer	7
Housewife	2

It is of interest to note that a high percentage of farmer and laborer occupational groups were represented. (Table II). Few perforated ulcers occur in the female, sixty-three patients were of the male sex. The pathology was encountered in five patients of the negro race.

TABLE III

Seasonal Incidence

Season	No. of Patients
January-April	11
April-July	23
July-October	18
October-January	13

There are definite indications that the peptic ulcer patient is more prone to have recurrences in the spring and autumn. The complication of perforation was found to be distributed throughout the year but most common in the period from April to October. (Table III).

TABLE IV

Duration of symptoms prior to the perforation

Duration	No. of Patients
No symptoms	11
2 months	10
2-6 months	5
6-12 months	4
1-5 years	18
5-10 years	10
10-15 years	3
15-30 years	4

The data would indicate that one out of every six patients will deny any ulcer history. Fifty-four recalled ulcer symptoms varying from two months to thirty years. Seventeen had had symptoms longer than five years and thirty-five for one year or more. (Table IV).

A perforation in the free peritoneal cavity is usually heralded by a sudden agoni-

zing epigastric pain. More localized at first, the pain later becomes generalized over the abdomen. Vomiting and shock-like appearance are characteristic. The patient assumes one position and resents being moved for an examination. The body is flexed and the skin is cold. A marked pallor and rapid, shallow respiration denote the intense suffering. As a rule the pulse does not vary from the normal for that individual for several hours. The abdomen presents a board-like rigidity, is usually retracted and markedly tender to palpation.

Within a few hours of the perforation, the shock becomes less apparent, the color improves and the pulse becomes stronger, but the abdominal signs are little changed. Some evidence of free fluid may appear in the abdominal cavity, accompanied by distention. Gas, having passed through the perforation in a sufficient amount, is demonstrable under the diaphragm by percussion and x-ray.

TABLE V

A Study of the Radiation of Pain

Radiation to	No. of Cases
Right Upper Quadrant	8
Left Upper Quadrant	2
Right Lower Quadrant	6
Low Midline	1
Generalized	38

The pain will have become generalized in most instances, thirty-eight of the sixty cases in this series. Radiation to the abdominal quadrants transpired in seventeen instances. Localization of pain and tenderness in the right lower quadrant was one of the principal factors causing an erroneous diagnosis of Acute Appendicitis in five cases. (Table V).

TABLE VI

The location of the onset of pain compared with the site of the perforation.

Site of Perforation	No. of Patients
... Epigastric Pain ...	
Anterior Stomach antrum	4
Superior prepyloric	7
Anterior prepyloric	20
Anterior Duodenum	3
Posterior Stomach	2
Cardia of Stomach	2
Site of previous posterior Gastro-enterostomy	1
... Epigastric and Right Upper Quadrant Pain ...	
Anterior Stomach Antrum	1
Anterior Duodenum	2
Prepyloric	1
... Epigastric and Left Upper Quadrant Pain ...	
Pyloric Antrum	1
... Epigastric then Right Lower Quadrant Pain ...	
Anterior Duodenal	1
... Umbilical Pain ...	
Posterior Superior Duodenum	1
Anterior Pylorus	2
Upper Pylorus	1
... Generalized Pain ...	
Large Ulcer at the Pylorus	1

The location of the onset of pain does not indicate the site of the perforation. Most patients will have epigastric pain at the onset regardless of the point of the perforation. More perforations occurred in the stomach than in the duodenum. (Table VI).

Occasionally the initial severe pain may subside after several hours. The patient may be rather comfortable, apparently improved, and even wish to defer surgery. This pitfall in diagnosis, if unheeded by the inexperienced, allows the peritonitis to become well established and may delay the surgery beyond hope of recovery. Of great assistance is a careful history of the severity of the attack, presence of previous ulcer symptoms, and evaluation of the abdominal findings. Despite the misleading improvement, an involuntary muscular rigidity is present due to the peritoneal involvement. The degree of tenderness is less reliable, being occasionally much less than at the acute onset.

Rarely a posterior wall ulcer in the duodenum may perforate into the retroperitoneal area. Pain in the right costo-vertebral angle and few abdominal findings are present. With an abdominal incision such a possibility should be in mind if induration exists about the duodenum and the right colon and no other pathology is encountered. A paranephritic abscess (2) may ensue and should be anticipated.

TABLE VII

The Temperature in fifty-six operated cases in relation to the duration of symptoms.

Temperature	Duration of Symptoms		
	To 7 Hours	To 11 Hours	Over 10 Hours
Subnormal	6	11	4
98.6-99.0	3	5	2
99.0-100	3	9	8
100-101	0	3	6
101-102	0	0	4
102-103	0	0	3

With a lapse of ten hours or more of symptoms the temperature begins to rise, concomitant with the onset of the bacterial peritonitis. In those cases showing no such rise, the prognosis is even more grave. After ten hours, of six patients with temperature 99 degrees or less, five expired. Of the twelve patients with recorded temperature within five hours of the duration of the attack, six were subnormal and six between 98.6 and 100 degrees. Of the twenty-eight patients with symptoms of ten hours or less, eleven had subnormal temperature, demonstrating that a lack of fever may persist for a considerable period. It is noteworthy that the distribution above and below 99 degrees fever was approximately equal, in these ten hour cases. One may well conclude that the

presence or absence of fever is of little help after the first few hours, and only relatively important within this period. (Table VII).

TABLE VIII

A Study of the Pulse in fifty-nine operated cases in relation to the duration of symptoms and Number of Patients.

Pulse	Duration of symptoms and Number of Patients.		
	To 7 Hours	To 11 Hours	Over 10 Hours
60-70	0	1	0
70-80	2	5	0
80-90	2	2	4
90-100	3	6	5
100-110	5	11	6
110-120	0	1	4
120-130	3	6	3
Over 130	1	1	2

Of the sixteen cases with symptoms of five hours or less, only seven had pulse rates below 100, and of the thirty-three cases with symptoms of ten hours or less, fourteen had a pulse rate below 100. The pulse in the majority of the patients, in both the five and the ten hour periods, seemed to range between 90 and 130. It is evident that the slow pulse, somewhat characteristic of the perforation within an hour or two of the accident, rather quickly in most instances becomes more rapid. (Table VIII).

TABLE IX

An evaluation of the Leucocytosis in relation to the duration of symptoms.

White Blood Count	Duration of symptoms and Number of Patients		
	To 7 Hours	To 11 Hours	Over 10 Hours
4,000-6,000	0	0	3
6,000-8,000	1	2	3
8,000-10,000	1	2	3
10,000-12,000	2	5	3
12,000-14,000	1	3	6
14,000-16,000	4	9	5
16,000-18,000	2	2	1
18,000-20,000	1	1	2
Over 20,000	1	2	1

Eleven of thirteen cases with symptoms of five hours or less had a leucocytosis ranging above 10,000. In the ten hour group twenty-two of the twenty-six likewise had a leucocytosis of 10,000 or above. In this ten hour period there was considerable variation in the degree of leucocytosis in the patient with the same duration of symptoms. The four patients with the white blood count less than 10,000 had symptoms respectively three, four and six hours where as the earliest patient seen two hours after the onset had a leucocytosis of 16,220. Hence in the majority of early cases there is an elevation of the white blood count; this early rise may be due partly to the shock as well as the chemical peritonitis. (Table IX).

TABLE X

The Clinical Impression and Final Diagnoses in Sixty-five Acute and Subacute Perforated Peptic Ulcers.

Acute Perforations

Impression	No. of Patients	Duration of symptoms
Ruptured ulcer	53	Variable
Appendicitis	5	11, 15, 16, 17 & 22 hours

Subacute Perforations

Gastric Lues	1	3½ months
Intestinal Obstruction	4	3, 4, 5 days
Biliary Tract Dis.	2	21 & 30 days

The differential diagnosis of few surgical diseases present as little difficulty as the acute perforated ulcer within the first few hours of onset. With an increase in the duration of symptoms, the ruptured ulcer may be mistaken for an acute appendicitis. The consultant who has gained the impression that a fulminating appendicitis is present must remember that approximately one of six ruptured ulcers with ten hours or more of symptoms, simulates appendicitis. Five of the twenty-seven cases in this series operated after ten hours were thought most likely to have an appendicitis, in four the possibility of ruptured ulcer was mentioned and in a fifth it was not considered. The latter patient was confused by morphine, given to withstand a trip of some seventy-five miles, and presented symptoms of fifteen hours duration. A McBurney incision revealed the appendix not the causative agent, yet purulent fluid welled through the wound. An upper right rectus incision disclosed a three millimeter diameter anterior duodenal wall perforation. The McBurney incision was used for drainage. (Table X).

On the other hand the differential diagnosis of the subacute and the chronic perforated ulcers is extremely difficult. Four such cases were thought to be instances of intestinal obstruction. The possibility of a ruptured ulcer was not considered in two. All were seen after the second day of the acute onset. None had had a previous diagnosis of ulcer, however three had had prior gastrointestinal symptoms. Such symptoms started in one case after eating persimmons, three months prior to admission. In this case a three centimeter perforated ulcer was located on the lesser curvature, seven centimeters above the pylorus with an abscess and many surrounding adhesions. In the stomach was an eleven by nine centimeter phytobezoar.

TABLE XI

A Study of the increase in Mortality concomitant with the delay of surgery.

Hours	Cases	Expired	Mortality
0-7	16	1	6%
7-11	17	4	23%
11-16	7	4	57%

The prognosis depends on the promptness of the surgical intervention. The mortality increases markedly if delay occurs before operation. The mortality was 6 per cent in the five hour group, 23 per cent in the ten hour group and 57 per cent in the fifteen hour group. Of the total mortality of nineteen patients in the sixty operative cases, eighteen expired from surgery after five hours. The use of Sulfanilamide, Sulfapyridine and Sulfathiazole promises at the present to reduce the mortality of not only the early but also the delayed operative perforated ulcer. The collected cases at the present are not sufficient in number to warrant published conclusions.

Two post-operative complications were encountered rather frequently. Ten cases developed a wound infection. Six patients suffered a variable degree of wound evisceration on the seventh to the tenth day after surgery. Neither complication was encountered in a patient whose duration of symptoms was less than six hours before surgery.

Many authorities advocated closure of the perforation followed by a posterior gastroenterostomy. In the presence of such an abdominal catastrophe, the essence of good surgical judgment is the use of the procedure best suited to alleviate the pathology. In by far the majority of cases suture of the perforation will suffice. These patients are in poor general condition so the least surgical manipulation and operative delay possible is best. If the ulcer is small, is on the anterior prepyloric area and surrounded by little inflammatory reaction, a pyloroplasty can be considered. Should the surgeon be thoroughly familiar with the procedure and the operation a very early one, such a pyloroplasty may be so modified to include the ulcer between the anterior and posterior suture line thus excising the lesion. Of course this adds to the operative hazard and is rarely indicated, not being done in any of these cases.

Should the ulcer be extremely large, prepyloric, longstanding with much fibrous thickening, a complete obstruction of the pylorus may ensue with simple closure of the ulcer. After discounting the edema and inflammation always present, should the surgeon feel that such an obstruction would continue to exist, a posterior gastroenterostomy may be considered.

Likewise a perforated malignant ulcer with pyloric obstruction sometimes requires a posterior gastroenterostomy so placed that a resection may be done at a second operation if feasible.

A partial gastrectomy rarely is the only

procedure of choice and should be undertaken with full realization of the probable outcome.

SUMMARY

The perforated peptic ulcer is most prevalent in the age group from twenty to forty. It occurs predominantly in the male sex. In this series a surprising number of laborer group was represented. Occasionally after several hours the patient may have a transitory period of apparent subsidence of all symptoms. A fatal delay may be allowed to occur by the unwary physician. The temperature and pulse are of little value, a leucocytosis helpful in arriving at the diagnosis. One

of every six patients with this pathology may be labeled with an erroneous diagnosis of Acute Appendicitis. The differential diagnosis of the subacute and chronic perforating ulcer is particularly difficult. The mortality after ten hours is five times that presented from surgery in five hours from onset of symptoms. A simple closure of the perforation will suffice in most cases. Very few patients had obstructive symptoms after the simple closure practiced in this series.

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The Management of Tuberculous Patients*

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When the diagnosis of tuberculosis is made, it is the duty of the physician to advise the patient in detail as to the course he should follow. This is often time-consuming as a thorough explanation is necessary, stressing the importance of sanatorium care and the serious consequences that may occur due to delay. He should be instructed as to hygienic methods, the importance of covering the mouth when coughing, the proper disposal of sputum, sterilization of eating utensils and isolation from children and young adults in particular.

In my opinion, as a general rule, only a physician who has had special training in diseases of the chest is capable of successfully managing tuberculous patients. He must be sympathetic and patient and thoroughly familiar with all the accepted methods of collapse therapy and after evaluation of the clinical and laboratory findings, he must, in a convincing manner, determine the proper procedure for each individual case. A bit of excellent advice was given by the late Dr. Chas. L. Minor who said: "Fill our patient's heart with hope and we double the fighting force of every cell in his body. Teach

him to smile and we wake up a sunlight in his heart which is the best heliotherapy. Rouse his will power to fight with us and our task at once becomes easier." Unfortunately and much too frequently, the disease is in the far advanced stage when the diagnosis is made. It has been said that eight out of ten patients who come to the sanatorium are in the far advanced stage. If these figures could be reversed, the death rate from tuberculosis would be reduced far below its present level.

Many problems are encountered in the management of tuberculosis. The majority of those affected are in the low financial bracket and are unable to enter private sanatoria. In spite of the fact that we have two excellent state institutions in Oklahoma that have made an enviable record during the past several years, the waiting list is often long and due to unavoidable delay, some patients who have a progressive type of disease may lose their chance of recovery. It behooves the physician to try to work out a plan whereby these patients can receive the proper care until a bed is available in one of the state institutions. Sometimes this can be managed in the home where artificial pneumothorax can be instituted in those particu-

*Read at the Tuberculosis Symposium, Annual Session, Oklahoma State Medical Association, May 8, 1940, in Tulsa.

lar cases where this method of treatment is indicated. We have a sanatorium in Oklahoma County with a bed capacity of about thirty, where patients who need immediate treatment are cared for until a bed is available at the state institution. Open cases who are in no immediate need of special treatment, but who are a source of danger to those with whom they come in contact, especially when there are children in the family, should be placed in a sanatorium as soon as possible.

The question of climate often arises and the physician must attempt to convince the patient that climate plays only a minor role and that if the proper treatment can be carried out under the supervision of a physician who understands tuberculosis, that climate will play no part, except perhaps only in a small percentage of cases. Not infrequently patients still remark that their doctor has advised them to go west, too often not taking into consideration the physical strain and the financial burden that this advice often entails. Some seem to entertain the belief that a few "whiffs" of Colorado or Arizona air will cure tuberculosis. It is impossible to go into detail about treatment in the short time allotted this paper. Each patient should be studied individually and after a sufficient period of observation the plan of treatment outlined. Rest, fresh air, nourishing food and education are the essential requisites coupled with the types of collapse therapy that can be satisfactorily and successfully accomplished. The consumptive is usually but not always underweight when treatment is instituted. The objective is to bring him back to or slightly above normal. During the period of active disease the appetite is usually poor and indigestion is a frequent symptom. Three well balanced meals and a glass of milk or fruit juice between meals, provided this can be assimilated without interfering with the appetite at mealtime, is given each day. The principal meal should be given at noon, the evening meal should be light. Never overload the stomach by forced feeding. As the general condition improves, so does the appetite.

A sleeping porch or a well-ventilated room should be provided. During the warmer months patients should spend several hours of each day in the moving air with nothing on the body except a pair of trunks. It has been proved that moving air is a beneficial adjunct in the treatment of pulmonary tuberculosis. Direct exposure to sunlight is dangerous and should not be recommended in patients with active pulmonary tuberculosis. Education can best be obtained in a sanatorium. There are some patients who

will do better at home, but the majority will profit by sanatorium treatment because the temptations that may arise elsewhere are avoided.

It is my firm conviction that collapse therapy, especially artificial pneumothorax is too often neglected in the management of early tuberculosis. If after a trial of four to six weeks of rest in bed, fresh air and nourishing food, in patients with minimal tuberculosis, it cannot be demonstrated clinically and by x-ray that the disease has shown a tendency to heal, collapse therapy should not be delayed. The words of Clive Riviere, uttered some years ago, are as true today as then, "No brighter ray of sunlight has ever come to illumine the dark kingdom of disease than that introduced into the path of the consumptive through the discovery of artificial pneumothorax." Artificial pneumothorax shortens the period of convalescence, converts many open cases to negative ones and shortens the stay in the sanatorium, thereby providing a bed for others who are in need of treatment. Many cases that would otherwise require a year or more of institutional treatment are able to return home in a few months where refills are continued and some return to the sanatorium at proper intervals for continuation of pneumothorax treatment. At the tuberculosis dispensary in Oklahoma City, which meets two days a week and recently a third day has been added for negro patients, 276 refills have been given since January 1, 1940. While on the subject of artificial pneumothorax some of the complications that often occur will be briefly mentioned. The accumulation of fluid in the pleural cavity occurs in approximately 60 per cent of the cases, but fortunately this is usually in small amounts and may be absorbed. When pressure symptoms develop, aspiration is indicated. Some of these effusions will become purulent and produce toxic symptoms. Open drainage is contra-indicated and repeated aspirations are necessary, often resulting in discharging sinuses through the needle tract. During the past year we have had several cases of tuberculous empyema that have responded satisfactorily to repeated aspirations followed by the introduction of Neoprontosil solution into the pleural cavity. Tubercle bacilli soon disappear from the pus and the pus frequently changes to amber-colored fluid after several aspirations, and there has been less tendency to the development of sinuses, this having occurred in only one of our cases. Prior to the advent of Neoprontosil the management of this condition was most unsatisfactory. In many cases where satisfactory collapse of cavities or diseased areas cannot be attained due to pleural ad-

hesions, intrapleural pneumolysis is indicated. Phrenicotomy may accomplish good results in a small number of selected cases. My experience with extrapleural pneumothorax is not adequate to express an opinion as to its value. Paravertebral thoracoplasty is indicated in those selected cases with adhesive pleurisy or where the other less radical methods have failed.

After the toxic symptoms have subsided and the disease is quiescent or apparently arrested, graduated exercise is begun under careful supervision. First the patient may have bathroom privileges and sit up for his meals, and spend a specified time in a chair each day, this to be followed by routine walk-

ing exercises, gradually increasing the time provided there is no return of toxic symptoms. Later if his progress is satisfactory, he is permitted to do light work. The problem of the tuberculous patient is by no means solved after the disease has become arrested. Relapse frequently occurs and may be more severe than the original disease. This is usually due to faulty methods of living or too rapid return to regular active life. Therefore, periodic examinations and competent medical supervision is absolutely essential. The management of cases of pulmonary tuberculosis extends over a long period due to the relapsing tendency of the disease and the slow healing process.

Admission of Patients and Their Care After Dismissal*

RICHARD M. BURKE, M.D.

Western Oklahoma Tuberculosis Sanatorium

CLINTON, OKLAHOMA

Oklahoma maintains two state sanatoria which provide some 600 beds for adult tuberculous. One of these is located at Talihina and one at Clinton. Besides these the State Veterans Hospital has a tuberculosis department. War veterans also will find fifty-five beds available at the Veterans Facility located at Muskogee. The Indians in the state, like the veterans, are more adequately provided with beds. There is a fine Indian sanatorium at Shawnee with a capacity of 150 beds and another, the Choctaw-Chickasha Hospital at Talihina. There is also a tuberculosis department at the Kiowa Indian Hospital at Lawton. A preventorium for children with childhood tuberculosis is maintained by the state in connection with the Eastern Oklahoma Sanatorium at Talihina. The Veterans Hospital at Sulphur also has a preventorium. Likewise the Indian sanatoria have provisions for caring for children.

Making application for admission to a state sanatorium is not difficult. Application blanks can be secured from the County Clerk's office or direct from the sanatorium. As there are two sanatoria, the state is roughly divided into two districts. The main line of the Santa Fe Railroad running north

and south through the state is used as an east and west division line. At Clinton we ordinarily accept only patients west of this line, but including all of Oklahoma County. The applicant must be a legal resident of the

TABLE NO. 1
OKLAHOMA TUBERCULOSIS SANATORIA

Sanatorium	Capacity		Admissions	
	Adult	Children	Adult	Children
W. O. T. San.				
Clinton	300		422	
E. O. T. San.				
Talihina	300	70	544	122
Indian San.				
Shawnee	140	10	118	11
Choctaw-Chickasha				
Talihina	75		98	73
Farm San.				
Oklahoma City	25		111	

Figures are for 1938

TABLE NO. 2
HOSPITALS WITH TUBERCULOSIS DEPT.
25 Beds or Over

Hospital	Tb. Beds		Admissions	
	Adult	Children	Adult	Children
State Veterans				
Sulphur	56	28	110	51
Veterans Facility				
Muskogee	55		255	
Kiowa Indian				
Lawton	29		120	3

Figures are for 1938

*Read before the Section on Tuberculosis at the Oklahoma State Medical Association meeting, May 8, 1940, Tulsa, Oklahoma.

state. After the application form is filled out by the physician, the patient, and the county commissioners, it is to be mailed to the proper sanatorium. Receipt of the application is acknowledged by the sanatorium. Included in this letter are suggestions for carrying out the rest treatment at home while awaiting admission. We also urge every member of the household to be examined. Here is an important role for the physician. The source of the patient's infection should be investigated and all those exposed to him should be examined. If the physician is not able to do this himself he should turn the matter over to those who can. Many general practitioners are inclined to consider tuberculosis an uninteresting disease. This may be true, but it is nevertheless a contagious disease. Tracing the source of infection can be very interesting and gratifying work, and usually financially worthwhile.

When the patient's turn comes on the waiting list he is sent a second letter notifying him when to report. If any preference is shown it is to the young patient with early disease. The letter includes a list of the articles needed when in residence. There is no charge for hospitalization, although for those who are able to pay, a fee graded according to income can be assessed up to \$15 per week. Patients are not to come until notified by sanatorium authorities. Tuberculosis does not constitute an emergency. As you know, the basis of treatment is simply rest, and this can be carried out in the home while the patient is awaiting admission. Not infrequently someone will tell the patient to go on to the sanatorium, saying, "They will take care of you." Unfortunately, we cannot care for them in this manner, and of necessity such a patient must be returned home to await his turn. Needless to say, the state needs more beds. The waiting list runs around 150. We reserve the right to deny admission to applicants over fifty to fifty-five years of age. This rule is an attempt to do the most good for the greatest number. It is felt that more can be accomplished for younger individuals through sanatorium care and surgery.

We accept patients who are pregnant provided they deposit \$15 and make provision for immediate care of the new-born baby. This fee goes to the Western Oklahoma Charity Hospital where such patients are delivered.

We have a separate unit containing fifty-two beds for negroes, which is all the beds available in the state for colored patients. As a result negro applicants must often wait many months. Many of these applicants are

dead by the time their turn comes to be called in. Caring for the negroes is not of concern to the colored population alone, but to all of us. The State Tuberculosis and Health Association recently appointed a committee which is attempting to better this situation. In 1930 there were not enough negro applicants to fill the colored ward. Since then the picture has changed. The waiting list is large and, no doubt, will continue to grow. We do not feel that there has been an actual increase in tuberculosis among the negroes, but there has been an increase in available diagnostic facilities which are now bringing more and more cases to light. The full time county units maintained under supervision of the State Board of Health are doing a fine work in tuberculosis case-finding in Oklahoma. It happens that most of these units are located in the eastern half of the state where the negro population is greatest.

Now a word concerning some of the problems which arise upon discharge of the patient. When the patient leaves, a brief discharge summary is sent to the referring physician. Sanatorium patients usually know the routine they should follow, but this routine needs supervision and altering periodically. Usually a chest film is advised every three months for the first year after discharge. A blood sedimentation rate is a simple and helpful laboratory procedure which we recommend. It is particularly valuable when there is some doubt as to the activity of the lesion. Ordinarily when a patient receives a recommended discharge he is on at least one hour's exercise. When all goes well this exercise can be increased up to four hours of light work during as many months. If at all possible the patient should adhere indefinitely to his afternoon rest period. Patients who leave against medical advice are not eligible for readmission. As a class they do not have "what it takes" to get well.

We have an out-patient department where your patient can be referred if you think it advisable. Out-patients must have a letter from a private physician before we will examine them. A report of this examination is sent to the physician, including a photographic reduction of the patient's chest X-ray.

We do not feel it amiss to mention briefly the problem of rehabilitation of the tuberculous. Annually there are 140,000 patients discharged from this country's sanatoria, and only 2,000 of them receive aid from state rehabilitation divisions. It would seem that an important part of their cure is being neglected. It is estimated that 20 to 30 per

cent of these people can be completely rehabilitated. Further, many of them who are classified as incapable of rehabilitation are rated such only because they cannot do a full day's work. If we had a workday of four or five hours such an individual would not be so designated. To quote Carlson (1), "Until a short workday is obtained, however, some other system of taking care of discharged patients with part time work capacities must be developed. Some states have set up sheltered workshops, training camps, etc. Many patients object to these programs, however, because they tend to isolate the tuberculous patient from other members of society. Patients feel that there is something of the aura of a leper colony about these sheltered workshops. They seem to think that a system of pensions for discharged patients who are unable to work would be fairer. In this way they would be enabled to live with their families, but would not regard themselves as burdens upon the families. Rehabilitation counselors and social workers interested in the welfare of discharged patients with restricted work capacities should take the desires of the patients into consideration in planning social programs of aftercare."

The majority of our patients are unskilled workers, and are unable to return to their previous occupations. We are not in a position to carry out a definite rehabilitation program at the sanatorium now, but have some plans for the future. We do, of course, favor ex-patients when there is a job which they can fill. We have 16 of them on the payroll now. A few receive aid from the state vocational rehabilitation department. Recently the NYA has established a training school in Colorado Springs for arrested cases, which is open to patients from this section.

One of the growing problems of recent years for many of the patients is how and where they are going to get their pneumothorax refills. We must hold up the discharge of a number of these individuals because they are unable to secure refills on the outside. An increasing number of states are meeting this problem by establishing air stations at strategic points where the indigent may receive refills. These air stations are staffed by local physicians who are reimbursed for their services by the state. The groundwork for such a program is now being laid in Oklahoma by the State Department of Health. Such a program will effect a considerable saving for the state. For example, we now have six patients in our colored ward whom we must hold in the sanatorium because they are unable to secure refills on the outside. The expense of providing pneumothorax to one patient per month averages under \$10, while hospitalization per month costs about four times this figure. Aside from this, more beds are made available to those awaiting admission.

In this paper we have tried to sketch some of the workings and some of the problems of the sanatorium. We at the sanatorium are only one cog in the tuberculosis control machine. Our job is to make the best possible use of the available beds. To do this properly requires the interest and cooperation of the man who invariably sees the patient with tuberculosis first—the general practitioner. Further it requires the proper correlation of all the other anti-tuberculosis activities such as the educational program, the case-finding program and the after-care program.

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Allergy To Liver Extract

W. TURNER BYNUM, M.D.

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In the past few years several reports have appeared in the literature (1, 2, 3, 4, 5) recording cases of pernicious anemia which

had developed a sensitivity to parenteral liver extract. Reactions usually occur in patients who have received injections for some

time, or in patients, who, after a period of weeks or months of treatment, discontinue injections for a short period, then resume them. Typical allergic reactions have been observed. Castle and Minot (6) have the following to say concerning this phase of liver therapy:

"The intramuscular injection of liver extract sometimes produces considerable local pain; in occasional instances tenderness and slight fever may persist for several hours. . . . Occasional patients experience slight flushing and feel faint for a few moments after a large injection. Rarely an induration lasting several days is produced. Such areas may become infected and may necessitate surgical drainage. It is possible that allergy is responsible for some of these effects which certainly do not appear in the vast majority of patients injected with any given material. Because the rare untoward effects of intramuscular injections in any individual patient cannot be anticipated, it is wise to employ at first a small dose frequently repeated over a period of hours or days as the circumstances may suggest."

Criep (3) in a very thorough article showed this phenomenon to be due to organ sensitivity rather than to sensitivity to animal species. Patients whom he studied were susceptible to liver extract and intradermal tests with liver extract from sheep, beef, and pork showed uniform sensitivity. However, these same patients tested with muscle protein extracts from the same animals showed no reaction whatsoever. This work was substantiated by Diefenbach (5).

Criep showed also that these patients could take liver extracts orally without any allergic manifestations and, after oral therapy for approximately three months, were again able to take intramuscular liver extract.

This left then four alternatives in handling these patients—(1) the use of oral therapy entirely, (2) the use of oral therapy for perhaps a minimum of three months and then cautiously using small intramuscular injections and, if tolerated, continuing with the intramuscular treatment, (3) the use of small doses intramuscularly supplemented with oral liver extract and, (4) desensitization.

Since all of these alternatives are expensive, cumbersome, and all too frequently unsatisfactory for the proper control of these patients, I wish here to report a case which I believe both substantiates Criep's demonstration of organ sensitivity and offers a simple and satisfactory method for the control of these troublesome cases.

Mr. J. W., a white male, age 55, was first examined on January 21, 1939. He consult-

ed me because of numbness and tingling in his hands, legs, and feet, pyrosis and an eruption on his face which he had noticed intermittently for several years. His past history was noncontributory save for the fact that he was continually "picking at his face." There was no personal history of allergy and no known familial disease.

His physical examination was essentially normal save for the following: (1) a factitious dermatitis about the mouth and over the bearded portion of the face, (2) a somewhat reddened and atrophic tongue, (3) loss of vibratory, and impairment of position sense in lower extremities.

The laboratory findings were as follows: Urinalysis; specific gravity 1.015, reaction alkaline, albumin, sugar, and microscopic examination negative. Red blood count 3,320,000 with marked anisocytosis and poikilocytosis. Hemoglobin (Haden-Hauser) 11.5 gms, reticulocyte count 0.83 per cent. Volume index 1.27, color index 1.12. Fractional gastric analysis; free hydrochloric O, total acidity 8 per cent. The fluoroscopic and X-ray examinations of the stomach were negative. A diagnosis of pernicious anemia and factitious dermatitis was made and the patient was given daily injections of .5 cc of Reticulogen (Lilly's Concentrated Liver Extract with Vitamin B1 made from pork liver) for six days, at which time his reticulocyte count was 2.5 per cent. Following this, the patient did not return for over three weeks, at which time (February 25, 1939) his blood count was found to be: red blood count 4,420,000; hemoglobin 12.5 gms. At this time he was placed on weekly injections of .5 cc Reticulogen which he received regularly for the following eleven weeks, at which time (May 20, 1939) his blood count was: red blood count 4,900,000 hemoglobin 13 gms. About thirty minutes following his injection on this date he developed a generalized erythema and burning, but because of the patient's extreme nervousness this was discounted, and on the following week (May 27, 1939) another .5 cc of the same preparation was administered shortly following which the patient developed massive urticaria (generalized), dyspnea, and marked swelling of the tongue, which condition subsided satisfactorily following the administration of five minims of a 1:1000 solution of adrenalin.

Following this, the patient was placed on oral liver extract, but he was unable to take an appreciable amount because of nausea. On June 10, 1939 blood counts revealed a hemoglobin of 13 gms, and a red blood count of 4,520,000, volume index 1.08. At this time he was given 1 cc of special liver ex-

tract made by the Lederle Company from pure beef liver (each 1 cc containing 15 International Units). Following this injection the patient experienced a rather severe but transitory flushing and burning of the face and tongue. For the following nineteen weeks the patient continued to receive weekly injections of this same preparation each time complaining of some transitory flushing and burning of face. At this time (October 21, 1939) his blood counts were found to be: hemoglobin 13.5 gms, red blood count 4,030,000, and the patient complained of some burning in the feet.

After consulting with Dr. Russell L. Haden of the Cleveland Clinic and Dr. Guy Clark, medical director of the Lederle Laboratories, it was decided to place this patient on a more highly potent preparation of beef liver extract made by this company — this preparation to be given 1 cc every five days. This was instituted on November 4, 1939, the patient experiencing a more intense flushing and burning than with the previous preparation, but not nearly so severe as with the pork liver extract. An attempt at desensitization with divided doses was attempted, but with no appreciable improvement. This preparation was administered at five day intervals for six injections, at which time the counts were as follows: red blood count 4,920,000, hemoglobin 14 gms, volume index 1.08.

On December 14, 1939 I obtained a sample of a liver extract made by Ayerst, McKenna, and Harrison of Montreal, Canada which was said to be freed of protein and histamine and to contain only a trace of solids. The patient was tested both intracutaneously and

intramuscularly with this preparation and found to give no allergic reaction to it. Simultaneously he was tested intracutaneously with the other preparations mentioned above and found to give markedly positive reactions.

Since this date the patient has been given 1 cc of the deaminized product (each cc representing the active substance from 100 gms of fresh liver) at weekly intervals and has manifested no allergic response, states that he feels fine, and his blood findings on March 24, 1940 are: red blood count 4,990,000, hemoglobin 15 gms, volume index .97.

SUMMARY

Reported here is a case of pernicious anemia who developed a sensitivity to pork liver extract and was found to be sensitive also to beef liver extract—although apparently less so than to the extract of pork liver—and who has been satisfactorily controlled, without allergic reactions, on a liver extract freed from protein and histamine.

This product is commercially available.

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Tuberculin Testing in Murray County, Oklahoma*

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During the past two years we have made a tuberculosis survey of the school children in Murray County. This year we are repeating the work. The county is small in area with a school population of 3,900. In the largest town, Sulphur, is located the State School for the Deaf and the State Veterans Hospital. The latter cares for tuberculous and general medical patients. We expected

the percentage of positive tuberculins to be higher than that found in the state as a whole. Puckett (1) in doing 155,000 tuberculin tests among school children in Oklahoma during the past six and one-half years reported 13 per cent positives.

A total of 1,341 skin tests were given including 250 tests given by Dr. Puckett at Davis. In conducting the survey the usual routine was followed. Written permission was obtained to perform the tests with the

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exception of the senior high school students. Appropriate literature concerning the significance of the tuberculin reaction was distributed. The Mantoux test using 0.1 mg. of Old Tuberculin was employed. Most of the positive reactors were fluoroscoped. Those with suspicious areas were x-rayed. Lack of funds prevented a broader use of the x-ray film. Parents whose children showed a positive tuberculin were urged to be fluoroscoped and x-rayed if necessary. The majority of them did so. A small charge was made for the x-ray film if the money was available; if not, this expense was borne by the County Health Association. All cases with positive findings were referred to their family physician.

For follow-up work we had the county health nurse visit all the homes in the rural areas where positive reactors had been found. She made a special effort to see that every one in the household had a chest examination. In Sulphur the school nurse did a similar service. In the case of the students at the School for the Deaf the parents were notified by mail of the findings.

Of 425 children skin-tested in Sulphur, 17.6 per cent were positive; of these 57 were x-rayed or fluoroscoped; 14 of these showed evidence of a primary infection (see Table No. 1). This was evidenced usually by some hilus thickening plus the presence of multiple irregular calcified deposits. No significant parenchymal changes were noted in the entire series.

The Dougherty school showed 19 per cent positives. This relatively high figure might be attributed to the low economic level of the community. Some of these children's parents were squatters in the nearby Arbuckle Mountains. Among the 237 pupils tested at Davis only 9 per cent were positive. No records were kept of their x-ray findings. Of the 198 tested in the rural schools 14 per cent reacted positively and 24 per cent of those x-rayed showed changes suggestive of a primary tuberculosis.

There were 353 students tested at the School for the Deaf. Their ages were from 5 to 28 years. Ten per cent were found to be positive, of which 35 per cent showed x-ray findings.

The entire survey did not disclose any adult (re-infection type) tuberculosis among the school children. However, two new cases of active re-infection type of tuberculosis among the parents were brought to light.

SURVEY HINTS

This particular survey prompts us to recall a few points concerning tuberculin testing and childhood tuberculosis.

TABLE NO. 1

Schools 1937-1938	Tuberculin No. of Tests	Test Posi- tives	%	Chest X-ray Total Child. X-rayed Type
Sulphur High Sch.	130	24	18	14 4
Washington Grade Sch. ..	177	37	18.6	30 7
Cameron Grade Sch.	100	13	13	12 2
Dunbar Sch. (colored) ..	18	1	5.5	1 1
Davis Schools	250	22	9	
Dougherty Sch.	115	22	19	15 5
Hickory Cons. Sch.	108	15	13.8	14 3
Joy Cons. Sch.	70	12	17	10 3
Koller Country Sch.	20	1	5	1 0
Country Sch. Total	988	145	15	87 25
State School for Deaf	353	37	10	37 13
Grand Total	1341	182	13	124 38

1. The positive tuberculin test means that tubercle bacilli are in the body. No person can develop tuberculosis without first becoming tuberculin positive. The present teaching is that a child who has the primary complex which is recognized by a positive reaction is more likely to fall ill from clinical tuberculosis as adolescence approaches than those who have not developed such a complex during childhood.
2. Do not attempt to explain to the parents the significance of a two plus as compared to a four plus reaction. Merely emphasize that you are primarily interested in whether or not the test is positive or negative. It is probably true that a strong reaction in a youngster suggests a recent and present infection, but this does not always hold. There is yet much to learn about the subject of allergy and immunity in tuberculosis.
3. In reading the tuberculin reaction where it appears to be questionable be guided by the presence or absence of induration. If there is no swelling and merely erythema the test may be interpreted as being negative.
4. Do not fail to test the teachers and the rest of the school personnel. (Oklahoma should have a law requiring certification of the health of teachers.) As a rule those over thirty years of age need not be concerned about a positive skin test if they have no symptoms. However, those under this age should have a chest film. Do not order an x-ray without first doing a tuberculin test. This is unnecessary and expensive as it is estimated only about 35 per cent of adults in Oklahoma are positive to tuberculin.
5. Do not fail to explain to the teachers that children with a positive skin test

- are not per se a public health menace.
6. Test high school students first where funds are restricted. If only a small number can be examined, test the primary grades. Usually children of this age have been exposed to the immediate family only. Hence the source of infection is more easily traced and discovered.
 7. Retesting of recorded positives need not ordinarily be urged. Explain that in the majority the test, when positive, remains so. However, all those individuals negative to tuberculin have not necessarily escaped infection. There is evidence that skin hypersensitiveness may wane or disappear.
 8. Periodic re-examination of the chests of positive reactors is important. It is probably least important between 5 and 12 years, for this seems to be the safe period as far as progression of the disease is concerned. It is probably most important between the ages of 15 and 25 years.
 9. We feel that in examining the lungs of children under 12 years fluoroscopy is reasonably adequate. Concentrate the x-ray film work on the age group where clinical tuberculosis is most likely to be found.
 10. Remember that clinically primary tuberculosis manifests few or no symptoms. It does not produce a protracted elevation of temperature. Loss of weight is not common. It rarely causes cough.
 11. In treatment stress regular hours, good food and correction of defects. In many cases strenuous exercise such as encountered in competitive sports should be forbidden.
 12. Do not lose sight of the fact that in tuberculin-testing children your most important objective is to search out the source of their infection.
- #### SUMMARY
- 1,341 school children in Murray County, Oklahoma, were tuberculin tested. 13 per cent were positive. Among the positive reactors that were fluoroscoped or x-rayed 30 per cent showed x-ray evidence suggestive of primary infection. No adult or re-infection type of tuberculosis was discovered in the children, but two new cases were brought to light among the parents. A few tuberculin survey hints are offered.
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• EDITORIALS •

WAR AND TUBERCULOSIS

In spite of improved methods of control, tuberculosis is not likely to be eradicated while wars continue. We should learn much from our World War experience which has given us a cumulative load that in 1939 amounted to 55,634 victims of tuberculosis, with a mortality for the year of 1,947 and a monthly compensation cost of about \$3,000,000.00.

Ramsay Spillman, in *The Journal of the American Medical Association*, October 19, 1940, states that taking a man who has tuberculosis into the service costs the government approximately \$10,000.00.

Under existing conditions and in the light of our knowledge of tuberculosis during the World War, Colonel Bushnell tried to avert the discouraging results reported above but the methods employed were inadequate.

History and physical examination alone will not afford adequate protection. Routine x-ray service in the examination of recruits, which was out of the question during the World War, would now be much less expensive than the care of active tuberculosis in those who may pass physical examination but would not escape detection by the x-ray.

Ramsay Spillman's final conclusion is: "A normal chest roentgenogram should be

the criterion of acceptance in a future mobilization, including the proposed draft for training, and it should be made and reported before the recruit has spent a night away from his own roof to obviate a repetition of the claims for aggravation of pre-existing tuberculosis which occurred during and after the World War."

The examining physician knows that the x-ray is by far the most effective means of discovering pulmonary tuberculosis, latent or early active. He should be relieved of the responsibility of recommending men for service without this important aid; the recruit should have this protection against the danger of morbidity, disability and death; the taxpayers are entitled to this safeguard against the "high cost" of "service connected" pulmonary tuberculosis.

While continuing to stress the importance of more adequate general medical service, how can the government afford to neglect this opportunity to apply available medical knowledge to a group under its control and for which it assumes a heavy responsibility.

Let us hope there is some valid reason for not immediately making an x-ray of the chest a part of the routine examination. In the meantime, we should remember there is no ultimate comfort in the "penny-wise and pound foolish" policy.

COMFORT FOR DOCTORS

For some time it has been known that, compared with other groups, doctors carry the highest average incidence of coronary disease. This disconcerting knowledge has gradually become more obvious and possibly it has paralleled a rising incidence of coronary pathology in general.

Fortunately the fear of the catastrophic results of coronary disease may be softened by recent studies which have added to our knowledge of the heart's physiologic and reparative response to pathologic changes in the coronary vessels and in the heart muscle. It has been shown that the coronaries are not truly end arteries, and that while the intercommunications are miniature, they are capable of compensatory development when emergency demands. Also it has been discovered that there are collateral circulatory communications with the cavities of the heart which have nutritional value.

If we escape the sudden gross coronary accidents and are fortunate enough to have wise medical control, damage and repair may simultaneously proceed in such a way as to materially extend an otherwise uncertain tenure of life, with fair possibilities for continued professional usefulness and philosophical growth. The latter is important, in that it helps rob death of its "sting" and enables the doctor to more effectively smooth the way for his fellow sufferers who otherwise might insist on traveling the "via dolorosa."

Those who are interested should read "Angina Pectoris, Coronary Failure and Acute Myocardial Infarction," by Herrman L. Blumgart, et al, Journal American Medical Association, Volume 116, No. 2, January 11, 1941.

For a study of the influence of nervous sensitivity and emotional behavior on anginal attacks, the reader is referred to "A Critical Analysis of the Emotional Factors in 100 Cases of Coronary Disease with Angina Pectoris," by H. Dunham Hunt, et al, The New International Clinics, Volume 3, Page 15, September, 1940.

THE COUNTRY DOCTOR

In this day when civilization is threatened with dissolution, it is a good time to look within. There is nothing like a careful personal inventory to properly relate one's daily life to the inevitable factors of environment.

Such a reckoning in the light of what is going on in the great outside world should gladden the heart of every country doctor blessed with the privilege of serving honest hard-working patients, who, to some extent, have retained the buoyant, hopeful transparent spirit which comes through contact with the soil. The opportunity quietly to move among sincere, appreciative people who have escaped the pitfalls which accompany life in the congested marts of trade, offers a character building value which is not to be despised.

If we can coin gold within ourselves, while the world at large is growing putrescent with greed for power and wealth, we are fortifying our souls for whatever may come, we are helping stabilize society, and best of all, we are serving our country with our hearts, our heads and our hands.

Though the science of medicine goes forward with astounding preventive and curative power, there was never a time when people were so obviously in need of the art of medicine.

• THE PRESIDENT'S PAGE •



I recently had occasion to hear the seasoned members of the Legislature discuss the age-old problems of the Representatives concerning the enactment of laws by which the people will be governed. The three of them agreed that it was impossible for any Legislator to be well acquainted with all of the facts which they are forced to consider and that they all welcomed advice, particularly when received from people of their own localities, whom they know to be cognizant of problems with which they are in direct contact; in other words, bankers on banking, doctors on medicine, and farmers on agriculture.

They frankly admitted that form letters were worse than no communication at all, since there was little likelihood that the problem had been given much thought by the sender. As expressed by one of the members, "A letter in longhand is better than a hundred mimeographed letters."

Another point which developed in the discussion was that constructive criticism, disclosing the errors of proposed legislation, is superior to a general condemning of a bill without giving specific reasons.

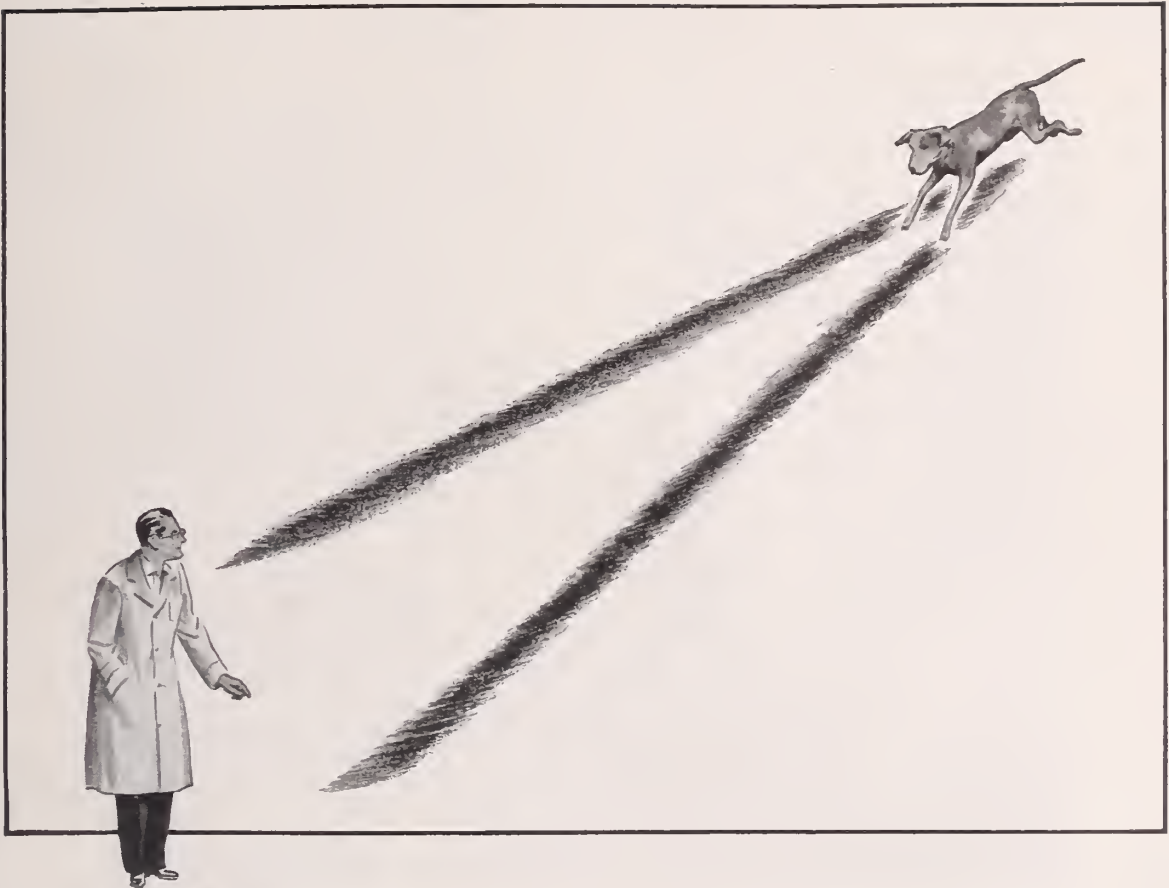
With only these two observations as a yardstick, who will be at fault if adverse legislation should be passed concerning the care of the health and welfare of the people as affected by the practice of medicine? In my opinion, it will be due to the lack of initiative on the part of the doctors of Oklahoma who feel that they should not enter into such activities. I am convinced that it is the duty of every doctor to give advice to his Representative on the problems with which he is acquainted, just as it is his desire to render service of a professional nature to his community; one is synonymous with the other, and both have the same community value.

If you are in accord with the opinion of your Representatives, what will be your action on House Bill 100, the contents of which appear on page 66 of this issue of the Journal.

Henry H. Turner

President.





The Conquest of Pellagra

In the annals of medical science few discoveries have been more notable than that of the dramatic role nicotinic acid plays in the treatment of pellagra.

Although earlier research workers had devoted much effort to the problem, it was Dr. Joseph Goldberger and Dr. W. H. Sebrell who, in 1930, supplied the necessary clue by their discovery of the beneficial effect of liver therapy in this deficiency disease.

Thereafter progress was rapid on several fronts, with major credit for the final victory due largely to Dr. C. A. Elvehjem for his identification of nicotinic acid or nicotinic acid amide with the black-tongue preventive factor. It was his

patient, tireless work with great batches of liver extract that narrowed the search to the few vital crystals which proved to be nicotinic acid. He and his co-workers at the University of Wisconsin—Madden, Strong, and Woolley—fed a few of these crystals to a mongrel dog suffering from black-tongue. In less than a day the symptoms had begun to disappear. Thereafter it remained for Dr. T. D. Spies in Birmingham, Alabama, and others, to apply nicotinic acid to their clinical work on humans, with what result the world knows.

Nicotinic Acid (Upjohn) is available in tablet form in 20, 50, and 100 mg. size, in bottles of 100 and 1000.



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ASSOCIATION ACTIVITIES

Five Outstanding Doctors Accept Invitations to Annual Meet

Plans for the Annual Meeting of the Oklahoma State Medical Association May 19, 20 and 21 at the Skirvin Tower in Oklahoma City are rapidly nearing completion, Dr. C. R. Rountree, Oklahoma City, chairman of the Scientific Work committee, has announced.

Five outstanding physicians, known throughout the United States for their work in their respective fields, have already accepted invitations as guest speakers.

Dr. A. N. Arneson, St. Louis, Mo., will represent the Section on Dermatology and Radiology; Dr. Ralph Pemberton, Philadelphia, Pa., the Section on General Medicine; Dr. Meyer Weiner, St. Louis, Mo., the Section on Eye, Ear, Nose and Throat; Dr. J. R. Reinberger, Memphis, Tenn., the Section on Obstetrics and Pediatrics; and Dr. Laureu H. Smith, Philadelphia, Pa., the Section on Neurology, Psychiatry and Endocrinology. This is the first time in the history of the association that a Scientific Section on Neurology, Psychiatry and Endocrinology will be held.

At this time only Dr. Arneson and Dr. Pemberton have reached an agreement with the officers of the sections which they represent as to the subject of their lectures. Doctor Arneson will deliver papers entitled "Cervix Cancer" and "Corpus Cancer." Doctor Pemberton will give a formal lecture on the subject of arthritides with the aid of lantern slides and also will preside at a clinic or modified clinic at which a series of cases will be presented for demonstrations as to type, severity, prognosis and, above all, practical methods of treating them. Cases in the clinic will be arranged for by members of that section.

Since 1939 the attendance of members at the Annual Meeting has increased from a little over 500 to exceed the 800 attendance mark. Officers of the association are expecting an even greater increase in attendance of members for the 1941 meeting. In spite of the fact that the Military Preparedness program has called many young members of the association into service, the association has maintained its high membership through the addition of new names to its membership rolls.

All physicians who attend the Annual Meeting this year are promised scientific exhibits greater in both number and in interest. Commercial companies also are increasing their exhibits this year. Those who have already made reservations for space at the meet are: Lederle Laboratories, Philip Morris and Company, John Wyeth and Brother, Inc., J. A. Majors Company, Schering Corporation, H. J. Heinz Company, the Menneu Company, J. B. Lippincott Company, General Electric X-Ray Corporation, A. S. Aloe Company, Coca Cola Bottling Company, C. V. Mosby Company, Merck and Company, Merkel X-Ray Company, Holland-Rantos Company, C. B. Fleet Company, Petrologar Laboratories, Inc., Eli Lilly and Company, The Harrower Laboratory, The Pearson School, Inc., and Caviness Surgical Company.

Physicians for Tulsa County Clinic Are Announced

Fourteen leading physicians were appointed heads of the clinical departments within the Tulsa County Medical clinic for 1941, it has been announced by Dr. J. C. Brogden, president of the county medical society.

Oklahoma City Internists Will Hold Clinics Feb. 22

The Oklahoma City Internists Association will entertain members of the county medical societies as its guests February 22 at the Washington's Birthday Clinics, Dr. E. R. Musick, chairman, has announced.

The clinics will begin at 9 o'clock that morning at the State University Hospital in Oklahoma City and will close at 4 o'clock in the afternoon. Lunch will be served without charge at the hospital and a round table discussion on current problems will follow the luncheon.

Dr. Musick added, "We hope that members will plan to spend the entire day and take an active part in this medical program."

PROGRAM

- 9:00-10:00 A.M.—Motion Pictures on Anemia
- 10:00-10:30 A.M.—Coronary Disease—Dr. F. Redding Hood
- 10:30-11:00 A.M.—Gastro-Intestinal Allergy—Dr. Wayne Hull
- 11:00-11:30 A.M.—Lead Poisoning — Dr. Ben Nicholson
- 11:30-12:00 Noon—Acne of Puberty—Dr. Henry Turner, Dr. Onis Hazel.
- 12:00-12:30 P.M.—Period for questions and discussion
- 12:45- 2:00 P.M.—Lunch-Forum
- 2:00- 2:30 P.M.—Bedside Laboratory Procedures—Dr. Floyd Keller
- 2:30- 3:00 P.M.—Low Grade Fevers of Childhood—Dr. W. M. Taylor
- 3:00- 3:30 P.M.—Kidney Diseases—Dr. C. J. Fishman
- 3:30- 4:00 P.M.—Vitamin Deficiencies — Dr. R. Q. Goodwin

Each man is to be responsible for operation of his department, through which the county cares for the sick who are not otherwise financially able to receive medical care. The general committee meets the first Tuesday of each month for a round table discussion.

Appointed were: Pediatrics, Dr. D. J. Underwood, succeeding Dr. M. J. Searle; surgery, Dr. A. Ray Wiley, succeeding Doctor Brogden; anaesthesia, Dr. H. B. Stewart, reappointed; urology, Dr. J. W. Rogers, succeeding Dr. C. E. Cohenour; internal medicine, Dr. R. C. Pigford, succeeding Dr. B. L. Branley; obstetrics and gynecology, Dr. J. A. Peden, reappointed; dermatology, Dr. W. A. Showman, succeeding Dr. M. O. Nelson; eye, ear, nose and throat, Dr. Charles H. Haralson, reappointed; X-ray, Dr. W. S. Larabee, reappointed; varicose, Dr. R. Q. Atchley, reappointed; cardiac, Dr. R. C. Pigford, reappointed; neurology, Dr. Ned R. Smith, reappointed; proctology, Dr. V. K. Allen, reappointed; and tumor, Dr. Ralph McGill, reappointed.



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House Bill 100

The health and welfare of the people of Oklahoma would be directly affected should House Bill 100, recently introduced by Representative J. T. Daniels, Ryan, Jefferson County, become a law since its provisions would tend to lower the standards governing the practice of medicine.

HOUSE BILL 100 AMENDS CERTAIN SECTIONS OF THE PRESENT MEDICAL PRACTICE ACT IN THAT IT PROVIDES FOR A CHANGE IN THE BOARD OF EXAMINERS, PRESCRIBES GROUNDS AND PROCEDURES TO SUSPEND AND REVOKE LICENSES, RE-DEFINES UNPROFESSIONAL CONDUCT, AND THE MANNER IN WHICH APPEALS MAY BE TAKEN FROM DECISIONS OF THE BOARD.

The measure is almost identical to State Question 241, Initiative Petition 166 voted upon at the recent general election and has been introduced at previous succeeding legislatures at which times it was commonly referred to as the "Co-operative Hospital Bill." The bill, as before, has the backing of the Farmer's Union and the V. I. A. organizations.

Since its introduction, the bill has been referred to the House Committee on the Practice of Medicine, the membership of which is made up of the following Representatives.

<i>Representative</i>	<i>County</i>
O. R. Whiteneck, Enid, Chm.	Garfield
Paul Washington, Oklahoma City, Vice Chm.	Oklahoma
J. Horace Harbison, Kingston	Marshall
Dennis Bushyhead, Claremore	Rogers
W. B. Lumpkin, Coweta	Wagoner
J. G. Powers, Freedom	Woods
Dick Houston, Woodward	Woodward
R. F. Estes, Elk City	Beckham
Amos Stovall, Anadarko	Caddo
Bill Selvidge, Ardmore	Carter
Elbert R. Weaver, Stillwater	Payne
R. M. Mountcastle, Muskogee	Muskogee
Andy Banks, McAlester	Pittsburgh
Creekmore Wallace, Oklahoma City	Oklahoma
A. E. Montgomery, Tulsa	Tulsa

House Bill 100 would bring about four major changes in the Medical Practice Act.

1. Change the make-up of the personnel of the Board of Medical Examiners.
2. Change the procedure for the revocation or suspension of licenses.
3. Make two changes in the definitions of what shall be considered unprofessional conduct.
4. Change the manner in which appeals may be taken from the action of the Board of Medical Examiners.

The sections of the present Medical Practice Act that would be amended by House Bill 100, together with the present wording that would be deleted in parentheses and the suggested amendments in italics, are published for the information of both the profession and the public.

HOUSE BILL NO. 100

By J. T. Daniel

SECTION 1. Section 4625, Oklahoma Statutes 1931, is hereby amended to read as follows:

Section 4625. Within thirty (30) days after the passage of this Act, the members of the Board of Medical Examiners shall be appointed by the Governor from the schools of practice commonly known as (the Regular, the Eclectic, the Homeopathic, and the Physio-Medic schools) *the Regular, the Eclectic and the Homeopathic schools*, who shall serve for a period of four (4) years or until their successors are appointed and qualified; (provided that for schools of practice represented by only one (1) member, there shall be appointed by the governor one (1) alternate from said schools who shall act at the meetings of the board in case of the absence of the regular members. Said alternate, during such period, shall have the same power and derive the same remuneration as the regular members would have received for such service.) *provided that at no time shall there be a majority of one school represented on said Board:* provided, further that no member shall be a stockholder in or member of the faculty or board of trustees of any medical college or school.

SECTION 2. Section 4646, Oklahoma Statutes, 1931, is hereby amended to read as follows:

Section 4646. The State Board of Medical Examiners may suspend or revoke the license or certificate of any physician or surgeon holding license or certificate to practice in the State of Oklahoma for unprofessional conduct, but no such suspension or revocation shall be made until such licentiate be cited to appear for hearing: *Provided that the License or Certificate of a physician or surgeon shall not be suspended or revoked on account of unprofessional conduct on the part of such physician or surgeon, until a hearing be had before the Board of Medical Examiners of the State of Oklahoma.*

No such citation shall be issued except upon sworn complaint filed with the Secretary of said Board, charging the said licentiate with having been guilty of unprofessional conduct and setting forth the particular act or acts alleged to constitute such unprofessional conduct. Upon the filing of such complaint, such citation must forthwith be issued by the Secretary of the Board over his signature, and seal of the Board, setting forth the complaint of said unprofessional conduct, and giving due notice of the time and place of the hearing thereof by the Board of Medical Examiners. The said citation shall be made returnable at the next regular meeting of the Board occurring at least thirty (30) days next after the service of said citation. The accused shall file his written answer thereto under oath with the Secretary of said Board within twenty (20) days after the service upon him of said citation (and the accused shall file his written answer thereto under oath with the Secretary of said Board within twenty (20) days after the service upon him of said citation and therewith shall deposit with the secretary his license or certificate authorizing him to practice medicine with such license or certificate be filed as herein cited and surgery within this state and unless such answer set forth) *and unless such answer be filed as herein set forth*, the accused shall be considered in default and his license or certificate suspended or revoked. If the charges be deemed sufficient by the Board; provided that the Secretary of the Board may extend the time of answer upon satisfactory showing that the defendant is, for reasonable cause, unable to make answer within the said twenty (20) days, but in no case shall the time be extended beyond the date of the next regular meeting of the Board, unless continuance thereof be granted by the Board.

SECTION 3. Section 4652, Oklahoma Statutes, 1931, is hereby amended to read as follows:

Section 4652. The words "unprofessional conduct" as used in this act are hereby declared to mean:

First. Procuring, aiding or abetting a criminal operation or abortion.

Second. Advertising in any manner, either in his own name or under the name of another person, firm, association or corporation, in any newspaper, pamphlet, circular or other written or printed paper or document, the treatment of or the curing of venereal diseases, or the private disease peculiar to men and women, or the advertising, or holding himself out to the public, in any manner as a specialist in the diseases of the sexual organs or diseases caused by sexual weakness, self-abuse or excessive indulgence, or in any disease of like nature produced by like causes; or the restoration of lost manhood, or the advertising of any medicine or any means whatsoever, whereby the monthly periods of women can be restored or regulated or the menses be re-established, if suppressed, or being employed by or in the service of any person, firm, association or corporation so advertising.

Third. The obtaining of any fee or offering to accept any fee, present, or other form of remuneration whatsoever, on the assurance or promise that a manifestly incurable disease can or will be cured.

Fourth. Wilfully betraying a professional secret to the detriment of the patient.

Fifth. Habitual intemperance or the habitual use of the habit-forming drugs.

Sixth. Conviction of a felony or of any offense involving moral turpitude.

Seventh. The employment of what is commonly known as "Cappers" or "Steerers" in procuring practice: *Provided the term "Cappers" or "Steerers" shall not be construed to apply to: Bonafide Agents of Hospitals and Clinics legally organized. Provided further that such hospitals or clinics shall not be permitted to enter into contracts for hospitals or medical services to be performed within thirty (30) days of the date of said contract and, provided further, that said organization of clinics or hospitals shall be organized on a mutual or cooperative non-profit plan in connection with some recognized farm or labor union or church or charitable organization.*

Eighth. All advertising of medical business in which statements are made which are grossly untrue or improbable and calculated to mislead the public.

Ninth. Conviction or confession of a crime involving the violation of the anti-narcotic or prohibition laws and regulations of the Federal Government, or the Board of Health Laws and Regulations of the State of Oklahoma.

Tenth. Dishonorable or immoral conduct.

Eleventh. *Professional connection with, or lending one's name to any person engaged unlawfully in the practice of medicine or surgery; or engaging in the practice of medicine or surgery under any name other than the one specified in the license of the licentiate.*

SECTION 4. Section 4656 of the Oklahoma Statutes of 1931, as amended by the Section 2, Article 7, Chapter 24 of the Session Laws of Oklahoma of 1935, is hereby amended to read as follows:

Section 4656. The State Board of Medical Examiners of the State of Oklahoma is hereby given quasi-judicial power, while sitting as a Board for the purpose of revoking or suspending the license of physicians and/or surgeons of the State, and appeals from its decision shall be taken to the (Supreme Court of this state) *District Court of the county of the residence of the accused, where said appeals shall be tried de novo in the same manner as appeals from Justices of the Peace, and appeals may be taken from the action of the District Court in the same manner as appeals in civil cases generally.*

No decision of said Board of Medical Examiners of the State of Oklahoma shall become final in any matter appealed from, pending final decision of the Supreme Court of this State, except as hereinafter provided in this Section.

The license of any physician and/or surgeon who has been convicted of any felony in or without the State of Oklahoma and whether in a state or federal court, and which conviction shall have become final, shall be suspended or revoked and cancelled by said Board upon the submission thereto of a certified copy of the judgment and sentence of the trial court and the certificate of the clerk of said court that said conviction has become final: *Provided, that the revocation of the license of any person convicted of a felony on any other grounds than that of moral turpitude or the violation of the Federal or State Narcotic Laws, shall be on the merits of the particular case, but the court records in the trial of such case when conviction has been had shall be prima facie evidence of the conviction.* Said Board shall also revoke and cancel the license of any physician and/or surgeon who has been charged in a court of record of this or other states of the United States or in the Federal Court with the commission of a felony and who is a fugitive from justice, upon the submission of a certified copy of the charge together with a certificate from the clerk of said court that after the commitment of said crime said physician and/or surgeon fled from the jurisdiction of the court and is a fugitive from justice.

SECTION 5. All acts or parts of acts in conflict herewith are hereby repealed.

SECTION 6. The provisions of the Act are severable, and, if any part hereof is held to be invalid by a final decision of any court of competent jurisdiction, the remaining parts hereof shall be valid.

SECTION 7. It being immediately necessary for the preservation of the public peace, health and safety, an emergency is hereby declared to exist by reason whereof this Act shall take effect and be in full force from and after its passage and approval.

Openings Reported In CCC Camps

Openings for physicians in CCC camps in the Oklahoma district have been reported by Major Phil McCaleb, CCC District Physician.

According to Major McCaleb, the medical department of the Oklahoma District CCC has been advised by higher headquarters that replacements of medical reserve officers called from camps to active duty are no longer available. Therefore the officer of the district physician has been instructed to receive applications for hire of full-time contract physicians to fill vacancies as they occur in the 32 CCC camps. The following conditions prevail:

(1) Pay \$3200 per annum on month to month contract with the Surgeon, Eighth Corps Area.

(2) Applicant must not have passed his 60th birthday (this ruling affecting only those hired after January 16, 1941), and must have no organic disease as disclosed by a CCC physical examination upon the date of reporting at this headquarters for duty.

(3) He must state in his request for the position whether he desires to be placed in an Oklahoma camp, or will go anywhere in the Eighth Corps Area.

(4) He must be willing to go to any camp in Oklahoma assigned to him.

(5) He must devote his full time to CCC duty. Private practice on the side is prohibited.

"I would like to state that the duties are not onerous, as may be verified by conversation with any of our present physicians on duty," Major McCaleb added.

Any doctor interested is requested to call in person or address a letter of application to the District Physician, Hq. Oklahoma District CCC, Cotton Exchange Building, Oklahoma City.

Dr. Lain Receives Appointment To National Cancer Board

Distinction was conferred upon Dr. Everett S. Lain, Oklahoma City, early this year when he was appointed a director of the National Board of the American Society for the Control of Cancer. He was informed of the appointment January 15 by Dr. Clarence C. Little, managing director of the national board.

The American Society for the Control of Cancer held its national meet February 16 to 17 in Dallas, Texas. This is the first time in its history that the convention city has been in the South.

The appointment of Doctor Lain to the national board of a society which has achieved nation-wide recognition for its outstanding work is an honor not only to him but to Oklahoma as well.

War-Time Evacuation Hospital Will Be Organized

Announcement has been made of the appointment of Dr. Cyril E. Clymer, Oklahoma City, as a lieutenant colonel in the army reserve to serve as organizing director of a war-time evacuation hospital in Oklahoma City.

Authorities also announced the appointment of 24 other physicians and surgeons to the hospital staff and Doctor Clymer will select 14 others for staff positions later. All 24 are members of the faculty of the University of Oklahoma medical school in Oklahoma City. When thoroughly organized, the staff will also include two regular army officers, a commandant and an adjutant.

The staff, serving as a unit, will function only in event of this country's entrance into the war but may be sent any place the army wishes. The officers may not be called up for extended active duty. Doctor Clymer will serve as chief of the surgical service and unit director if the unit is activated in case of war.

Dr. B. F. Keltz will be a lieutenant colonel and chief medical officer. His assistant will be Dr. Bert E. Mulvey, who will be a major. Dr. Lewis L. Reese, superintendent of both the Crippled Children's and University hospitals, will serve in the unit as chief evacuation officer and will be a captain.

Assisting operating surgeons, ranking as captains, will be: Dr. George Kimball, Dr. Harry Wilkins, Dr. Austin H. Bell, Dr. Robert L. Noell and Dr. Chester McHenry. Serving as chief operations surgeons with the rank of a major will be: Dr. LeRoy Long, Jr., Dr. D. H. O'Donoghue, Dr. H. Dale Collins, all of Oklahoma City; Dr. Pat Fite, Muskogee; and Dr. J. H. Robinson.

General helpers in surgery, ranking as first lieutenants, will be Dr. Jess Herrmann, Dr. John Kuhn, Jr., Dr. James Taylor, Dr. Robert Howard, Dr. John Campbell and Dr. Charles O'Leary. Dr. W. W. Rucks, Jr. will serve as an assistant in the medical service as a captain and Dr. James Royce, who will also be an assistant, will rank as a lieutenant. All these physicians are residents of Oklahoma City.

Head of the dental services will be Dr. Ward Shaffer, who will rank as a captain, while Dr. Marion Flesher will act as his assistant and rank as a lieutenant. Dr. A. J. Ackermann, holding the rank of a captain, will be chief of the X-ray division.

Army regulations specify that an evacuation hospital is mobile and is located near a railroad off the main thoroughfare. It is considered a front-line unit and is usually located from 5 to 20 miles behind the front lines.

Group Malpractice Insurance Is Transferred to New Company

Plans have just been completed for the expansion and perfection of the Oklahoma Group Malpractice Insurance program, according to Dr. James Stevenson, chairman of the Tulsa County Malpractice Insurance committee and a member of the council of the Oklahoma State Medical Association, who announced that the Houston Fire and Casualty Company was retiring from the program and that the Master Policy has been transferred to London and Lancashire Indemnity Company and the scope of the program made state-wide.

The transfer of this Group Policy was brought about because of the fact that since the Houston Fire and Casualty is now writing some large fire insurance policies for the United States Government projects, some of which are in Oklahoma, this company was obliged to withdraw their casualty facilities from this state, inasmuch as our state law prohibits an insurance company from conducting both a fire insurance and a casualty insurance business. The law permits a company to write fire insurance or casualty insurance but not both.

Inasmuch as the London and Lancashire Indemnity Company also has been handling a large number of physicians' malpractice policies, the committee in charge felt that by combining the coverage of both groups under one Master Policy, the entire program could be strengthened materially and would bring out a better condition for the doctors and the insurance agents generally.

As in the past, the coverage under the Master Policy will be available only to physicians and surgeons who are members of their own local County Medical societies. Each doctor will be covered by the Master Policy through a Certificate which will be issued under the blanket policy.

With the combining of the insured of the London and Lancashire Company and the policyholders of the Oklahoma Group Policy, more than 300 physicians will be embraced by the plan immediately. It is the plan to unite all physicians and surgeons of Oklahoma under one group and combine the insurance strength of approximately 1,000 physicians in this state under one policy.

Physicians and surgeons will receive all of the advantages of the Group Insurance Policy under the new arrangements with London and Lancashire. It is the plan to place this insurance entirely under the supervision of the medical profession of the state. A committee is to be appointed giving control of rates, claims and policies to the medical profession.

The great reduction in insurance rates, brought about by the Group Master Policy, will be continued with the annual premium for "General Medicine" \$27.50; for "Surgeons" the rate will be \$33.50 and for "X-Ray and Radium Therapy" the rate will be \$40.00. These rates will never be increased unless the committee in charge determines that the loss ratio and cost of this insurance increases to the point where increased rates are justified.

Under the present plan, arrangements will be made to have an insurance committee appointed in each of the larger Medical Societies to help supervise the Group Insurance Program in the various medical centers of Oklahoma.

The Oklahoma Group Malpractice Policy may be secured from any local agent of the London and Lancashire Indemnity Company or from W. M. Eberle Company, Terminal Building in Oklahoma City, general agents for the London and Lancashire Company. Complete information will be furnished to the Secretary of every County Medical Society and will be available for all members.

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NEWS FROM THE COUNTY SOCIETIES

Members of the Muskogee County Medical society were hosts at a Good Will party December 16 when they entertained representatives of the business and professional interests and members of the state legislature from that section of Oklahoma.

Dr. F. W. Ewing, Muskogee, was introduced by Dr. J. T. Woodburn, vice president of the society, and acted as toastmaster for the evening. The unusual program consisted of talks made by any guest who wished to speak upon a subject relative to the business or professional interests of those present.

Several faces are missing at society meetings since the nation has made its call for help in the national defense program to the medical profession. Those who have been called are: Dr. R. N. Holcombe, Dr. George Kayser, Dr. I. C. Wolfe, Dr. John Rafter, Dr. W. N. Weaver, and Dr. C. L. Oglesbee.

On January 20 members of the Okmulgee-Okfuskee County Medical society visited the Muskogee County society and presented an interesting program. Talks were: "Neuralgias and Ear Symptoms," Dr. George L. Tracewell, Okmulgee; "Anal Diseases," Dr. G. Y. McKinney, Henryetta; "Hypertension," Dr. M. D. Carnell, Okmulgee; and "Unusual Fractures," Dr. I. W. Bollinger, Henryetta.

A large number of doctors from Muskogee attended the annual meeting of the Tulsa County Medical society January 11 and the annual meeting of the Sebastian County Medical society January 14 at Fort Smith, Ark.

About 25 members of the Muskogee County society met February 3 for their first meeting of the month. Speakers were Dr. Harry Wilkins, Oklahoma City, who spoke on scalenus-anticus syndrome; Dr. Tom Lowry, Oklahoma City, who spoke on pneumonia; and Dr. Paul Atkins, Jr., Muskogee, who gave a case report on cancer of the pancreas.

The next meeting will be a joint session with members of the Cherokee County Medical society. The dinner will take place at the Arrow Cafeteria balcony in Muskogee.

At a round table talk, members of the Atoka-Coal County Medical society agreed that regular monthly meetings should be held and completed the naming of delegates and alternates to the annual state meeting in May. The meeting was January 21 at Atoka. Five members were present and guests were Dr. W. W. Cotton, who is to become an active member of the group upon the transfer of his membership from Cotton county, and Dr. J. C. Canada, supervisor of the Atoka-Coal County Health unit.

The first meeting in February was held at 7:30 on the 18th at Coalgate. Dr. J. C. Canada and Dr. T. H. Briggs, Atoka, discussed the subject of "Obesity and the Endocrines."

Members of the Tillman County Medical society met at 7 o'clock January 14 to elect officers for 1941. Mr. F. A. Boutwell and Mr. Neal Stidham met with the members of the society to discuss the plan of the government to furnish those farmers having rehabilitation loans an additional \$25.00 each year for medical service.

Members of the Tri-county Medical society, Grady, Caddo and Stephens, met January 23 at Chickasha with 23 members present.

A symposium on acute respiratory disease was held. Ear, nose and throat aspects were given by Dr. G. L. Berry, Lawton, and Dr. Floyd Moorman, Oklahoma City, read a paper on chemotherapy in the treatment of pneumonia. These papers were discussed by those present and Dr. William Taylor, Oklahoma City, made a short talk on pediatric problems. The next meeting will be February 20 in Chickasha.

The Tri-county Clinical society has formed a permanent organization for the purpose of holding monthly scientific meetings. So far the meetings have been enthusiastically received by members. Officers elected are: Dr. Roy E. Emanuel, Chickasha, president; and Dr. Turner Bynum, Chickasha, secretary.

"Hermia" was the subject discussed by Dr. V. M. Rutherford, Woodward, at a meeting of the members of the Woodward County Medical society and their wives January 9 in Woodward. The talk was followed by two 15-minute films which were later discussed by the members.

The first meeting of this month was set for February 13 in Shattuck. Special guests were invited to the dinner.

The program included a paper by Dr. C. E. Williams, Woodward, on the Eye and a paper by Dr. A. J. Streit, Amarillo, Texas, on Ear, Nose and Throat. Both will select the subjects for their paper. The meeting was at the Newman Clinic, Shattuck.

Doctors of the Woods County Medical society entertained their wives and guests at a dinner January 28 in the ballroom of the Bell hotel in Alva.

Dr. W. K. West, Oklahoma City, read a paper on "Fractures of the Spine" which he illustrated with lantern slides. R. H. Graham, executive secretary for the state association, was also present and talked on the current legislative program.

The next meeting will be held March 25 at Alva at which time Dr. W. P. Neilson, Enid, will be guest speaker.

Members of the Oklahoma County Medical society held a symposium on recent advances in chemotherapy at a meeting January 28 at the Medical School auditorium in Oklahoma City. Dr. Elmer R. Musick was in charge of the medical phase; Dr. C. B. Taylor represented the urological; and Dr. Oscar R. White, the surgical. Those who entered the discussion were: Dr. J. M. Campbell, Dr. D. D. Paulus and Dr. R. H. Akin.

The next meeting will be February 25, again at the Medical School auditorium. The subject for the symposium will be "Anemias." Dr. Hugh Jeter will present the laboratory diagnosis and Dr. Wann Langston the use of therapy. Others who will discuss the subject are: Dr. W. H. Bailey and Dr. Harry A. Daniels.

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It was the night for both the annual meeting and "ladies night" when members of the Pottawatomie County Medical society convened at 7 o'clock January 18 in the ballroom of the Aldridge hotel in Shawnee. Thirty-five members and as many guests were present. Dr. C. C. Young acted as toastmaster.

Dr. Clovis Chappell, pastor of St. Luke's Methodist church in Oklahoma City, was the guest speaker for the occasion. His subject was "The Beloved Physician." Other entertainment was furnished by Mr. G. M. Nelson who sang selected American songs.

At a meeting February 15 in Shawnee, Dr. A. C. McFarling, Shawnee, made the principal address. His subject was "Interstitial Keratitis."

Members of the Cherokee County Medical society held their regular monthly meeting Tuesday January 21 at the W. W. Hastings hospital in Tahlequah. Dr. Isadore Dyer, secretary, acted as chairman.

Talks were made by Dr. V. K. Allen and Dr. L. Lawbeer, both of Tulsa. Slide pictures illustrated their lectures. Guests were: Dr. H. N. Sanders, Muskogee, Indian Service physician; Dr. M. B. Lhevine and Dr. J. F. Gorrell, both of Tulsa.

Election of officers will be held this month.

Nineteen members of the Garfield County Medical society attended a meeting and dinner January 23 at the Hotel Youngblood in Enid.

Speakers and the titles of their lectures were: Dr. Evans Talley, "Brain Tumors," Dr. F. T. Joyce, "Pathology," and Dr. Waldo Newell, Jr., "Asthma." All three doctors reside in Enid.

The Cleveland County Medical society were hosts January 24 to members of its auxiliary and special guests at the Faculty club in Norman. Dr. D. G. Willard, president, acted as toastmaster.

The entertainment program was provided by the University of Oklahoma extension division and consisted of musical numbers and readings. Spelling matches, Bingo and dominoes furnished amusement for the rest of the evening.

A discussion by Dr. A. B. Carney, Tulsa, of the upper abdominal surgical lesions, especially the unusual and normal blood supply of the gall bladder, featured the meeting of the Ottawa County Medical society January 16 at the Miami Baptist Hospital. Seven members were present.

The next meeting of the society will take place February 20 and will also be held at the Baptist Hospital in Miami. Dr. L. F. Hermburger will speak on 10 common skin diseases.

Lectures on pneumonia and on the Bulgarian treatment for Parkinson disease were given at the meeting of the Craig County Medical society in December at the Eastern Oklahoma hospital.

At a meeting January 29, Dr. Louis Ritzhaupt made a talk before the members in which he asked them to voluntarily assume the task of examining draftees as a patriotic duty. The society also gave approval to the Group Hospital plan.

Fifty members of the Pittsburg County Medical society and the Medical auxiliary met January 17 for the installation of officers for 1941. Dr. L. S. Willour, McAlester, acted as installing officer as Dr. William H. Kaiser assumed the duties of president; Dr. Thomas V. Norris, the office of vice president; and Dr. E. D. Greenberger, the office of secretary.

The program was presented through the courtesy of the extension division of the University of Oklahoma and included humorous readings and an instrumental duet. Principal speaker was Dr. M. L. Wardell, professor of history at the university who spoke on "Democracy and Our Position in This World Conflict."

Doctor T. H. McCarley and Dr. C. E. Lively, both of McAlester, are to be the speakers at the next meeting at 7:30 February 21. Their subject is, "Peptic Ulcers." A round table conference will follow.

Eight members of the Stephens County Medical society met at 7 o'clock January 29 in the office of Dr. Wallis Ivy in Duncan. Annual election of officers was held.

The next meeting will be February 25 at 7 o'clock at the New Duncan hotel. Speaker for the evening is to be Dr. Joseph W. Kelso, Oklahoma City, who will discuss, "Functional Bleeding." Dr. C. P. Bondurant, Oklahoma City, will also be a guest speaker but his subject has not yet been announced.

Sixteen members were present when the Okmulgee and Okfuskee County Medical societies met Feb. 10 at Okmulgee. Seven visitors were invited.

Dr. H. T. Ballantine, Muskogee, spoke on "Some Anomalies of the New Born," and Dr. E. H. Cochman, also of Muskogee, gave a talk on "General Medicine in Eye, Ear, Nose and Throat Practice."

The next meeting of the Okmulgee society will be March 10 at Okemah. A speaker has not yet been selected. Members are also planning to attend a meeting at Henryetta, of the physicians of Councilor District No. 8, the date of which has not been announced.

Opportunities For Practice

The combination of a doctor and a drug store are needed in Goodwell, a town of 400 residents and the home of the Panhandle A. and M. College, a state agricultural institution with an annual enrollment of about 750 students.

The country is principally engaged in agriculture. However, Goodwell is located in the center of the Hugoton, Kansas and Texas Panhandle Gas field which is only now being developed and there will be a great amount of development in the near future.

A nice practice can be worked up by a physician with ability. The former doctor gave up his practice because of ill health.

All inquiries should be addressed to the Oklahoma State Medical Association, 210 Plaza Court, Oklahoma City, Okla.

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PNEUMOCOCCUS INFECTIONS . . . Thousands of cases of pneumococcus pneumonia have responded with dramatic promptness to Sulfathiazole. In comparison with its pyridine analogue, Sulfathiazole is less likely to cause serious nausea or to provoke vomiting.

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Write for literature which discusses the indications, dosage and possible side effects of Sulfathiazole

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WINTHROP CHEMICAL COMPANY, INC.

Pharmaceuticals of merit for the physician **NEW YORK, N. Y. • WINDSOR, ONT.**

Dr. Sachs Delivers LeRoy Long Memorial Lectureship

Over 500 physicians and layman filled the auditorium of the University of Oklahoma School of Medicine February 7 to hear Dr. Ernest Sachs, professor of clinical neuro-surgery, Washington University School of Medicine, speak on "Surgery of Brain Tumors Today and Ten Years Ago."

His address was the LeRoy Long Memorial Lectureship, sponsored by the local chapter of Phi Beta Pi fraternity. The Lectureship was begun under the sponsorship of Dr. LeRoy Long, Sr. and since his death last October has been named the LeRoy Long Memorial Lectureship.

Doctor Sachs' address was also the program for the regular monthly staff meeting of the University Hospital on the same night. The lectureship is given annually by a guest speaker.

Auxiliary News

At the January meeting of the Le Flore County auxiliary, which was held at the Hotel Judkins-Forbes at Poteau, Mrs. Harrell Hardy talked on the subjects, "Supercharged Flour" and "Blood Brothers" from the January Reader's Digest. Seven of their ten members were present.

The Oklahoma County auxiliary met at the Y.M.C.A. in Oklahoma City January 22. The morning was spent making garments for layettes for underprivileged children and making scrap-books for the children at the Crippled Children's Hospital. Miss Lula Severs of the Red Cross gave an account of what the Red Cross is doing in the present emergency and suggestions of work that the auxiliary might do as a unit. The members decided to take up Red Cross sewing as their next project. The subject of organizing a First Aid unit among auxiliary members was discussed and referred to the auxiliary board for a decision. The method of observing Doctor's Day March 30 was discussed and referred to the Board of Recommendations. A report was given by the special committee which has charge of caring for the needy family and they were voted funds to be used at their discretion. A layette shower will be held at the next meeting, the garments to be used to complete the layettes being made for underprivileged babies. There are 154 members in the Oklahoma County auxiliary, 58 of whom were present at the January meeting.

At the December meeting of the Pittsburg County auxiliary, which was held at the Aldridge Hotel, Mrs. E. H. Shuller, vice president, officiated in Mrs. Edward D. Greenberger's absence caused by illness. Nine of their fifteen members were present. They discussed the question of Hygeia subscriptions, Christmas gifts and raising money for their Cod Liver Oil fund. They sold pencils and obtained subscriptions to Holland magazines to raise this money. The posters announcing the "Doctors at Work" radio programs were placed in drug store windows, physicians' offices and other public places. At the January meeting of this same group there were ten members present. They decided at this time to meet twice a week to sew for the Red Cross. They had general discussion of several articles from Hygeia.

Mrs. E. M. Gullatt, president of the Pontotoc County auxiliary, held a meeting January 15 at the home of Mrs. A. R. Sugg at Ada, Okla. Fourteen members were present to discuss means of raising money for

their auxiliary work. Mrs. S. P. Ross read a poem in memory of Dr. Erle Evans. The members of this group work at the Valley View hospital one day a month.

The Tulsa County auxiliary met in the home of Mrs. R. C. Ray, 1254 E. 30th Place, Tulsa, Tuesday, January 7. Thirty-three of their 136 members were present. Current events in medicine was the subject of talks made by Dr. Marcella Ruprecht and Dr. Margaret Hudson. A letter of condolence was sent to Mrs. C. J. Woods, Georgia, whose husband died recently. Mrs. Woods was the second president of the Tulsa auxiliary and had a large part in its organization. The ladies of the Tulsa group decorated tables for the dinner January 11 for the inauguration of the President of the Tulsa County Medical society.

Federal Income Tax

Several new changes in the federal income tax laws are described in the following bulletin which has been received from the H. E. Cole company, accountants for the Association.

The Revenue Act of 1940 has made important changes with respect to the liability of individuals for the filing of income tax returns. Individuals under the following circumstances are required to file returns covering the calendar year 1940:

Single individuals or married individuals not living with husband or wife, having a GROSS INCOME of \$800.00 or more.

Married individuals living together having a combined GROSS INCOME of \$2,000.00 or more.

The net income is no longer to be used in determining the liability for the filing of a Federal income tax return. The liability of a citizen or resident of the United States to file a return is dependent upon his status as a married or single person, and the amount of his GROSS INCOME. Therefore, every citizen or resident of the United States will be required to file a return for the taxable year 1940 if his GROSS INCOME in 1940, regardless of the amount of his net income, comes within the amount specified above for his particular status. A return must be filed even though, by reason of allowable deductions from gross income and of allowable credits against net income, it develops that no tax is due.

Form 1040A should be used for GROSS INCOME of not more than \$5,000 derived from salaries, wages, interest, dividends and annuities. Form 1040 should be used for GROSS INCOME from salaries, wages, interest, dividends, and annuities of more than \$5,000; or if any part of your income is derived from other than salaries; wages, interest, dividends, or annuities, Form 1040 should be used regardless of the amount of your income. While returns must be filed on or before March 15, 1941, with the collector of internal revenue for the district in which you reside.

Individual Income Tax

The normal tax of 4 per cent on income above exemption remains unchanged. Surtax rate increases over existing law ranging from 1 per cent to as much as 13 per cent for brackets between \$6,000 and \$100,000 above personal exemption. In addition there is also a defense tax which is ten per cent of your total normal and surtax. This defense tax will be in effect for a period of five years. Normal and surtax exemptions are reduced to \$800 for estates and single persons and to \$2,000 for married persons or heads of families. \$400 for each dependent remains unchanged as well as the \$100 exemption allowed for trusts. Earned income credit remains unchanged for individuals.

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1½ LBS. NET.

The history of Karo is inscribed in the nutrition of millions of infants. It reveals universal acceptance of Karo Syrup as an excellent source of dextrins, maltose and dextrose. Karo remains the effective milk modifier for all forms of milk and for every type of infant feeding problem.

The composition of Karo cannot be improved, so it is now introduced in superior containers—in streamlined glass bottles. Karo Syrup is processed at sterilizing temperatures and sealed hygienically in these sparkling glass containers.

The high sanitary quality of Karo can now be maintained while using the clear glass bottles in the nursery or kitchen in the preparation of infants' formulas.

The cost of 24 ounces of Karo Syrup in glass bottles is only slightly more than in cans. Karo thus yields (volume for volume) double the caloric value of powdered maltose-dextrins-dextrose at a fraction of the cost.

Karo is bacteriologically safe; devoid of laxatives or any impurities; well-tolerated by newborns, infants and children; easily digested even in difficult feeding problems; absorbed by gradations at spaced intervals in the intestinal tract; prevents flooding of the bloodstream with exogenous sugars.



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KARO IS, OF COURSE, STILL AVAILABLE IN THE FAMILIAR SANITARY TINS

News From The State Health Department

For the second consecutive year, Oklahoma was named as the state making the most noticeable improvement in its public health work, according to the annual report of The Commonwealth Fund, New York City philanthropic organization.

"This year again the stir of progress is most conspicuous in Oklahoma, where the vanguard is not yet far down the road," the report states in the section devoted to a summary of the Fund's work in the field of public health.

The Commonwealth Fund has for the past two years provided financial assistance for public health in the state; supplied trained personnel to act as advisors and consultants for health department employees and has provided special "refresher" courses at Tulane University for several Oklahoma physicians. This has been done in states where the Fund does public health. In addition the Fund also helps maintain Valley View hospital in Ada.

Administration and use of funds provided by the Commonwealth Fund is directed by Dr. G. F. Mathews, commissioner of the Oklahoma State Health department, who is in charge of public health activities for the state. Dr. Mathews is now a member of the Fund's Technical Board on Public Health.

The section of the report pertaining to public health gives considerable space to the work in Oklahoma. "Since the American Public Health association surveyed the state's public health facilities in 1937-38 and the Fund joined forces with the state department in 1938 there has been action all along the line. Two years is a short time in which to show significant change but parallel columns tell a striking story," the report states.

The following figures are quoted:

1938	1940
24 per cent of rural population with full time public health service	48 per cent of rural population with full-time public health service
9 full-time county health departments	16 full-time county health departments
1 multi-county health unit	7 multi-county health units
10 rural health officers	26 rural health officers
21 rural public health nurses	86 rural public health nurses

As evidence of the growing approval of public health in Oklahoma, county governments have, during the past two years, quadrupled their expenditures for support of local health service. The two years covered in the report ended September 30, 1940.

The report explains that "nearly half the Fund's income is spent year after year in the encouragement of rural public health and rural hospitals. These major undertakings are intended primarily to set practicable standards in essential public services and to help specific communities (and such others as may wish to follow their example) to approach or realize these standards.

"The public health program in its simplest terms is an effort to blanket certain states with full-time local health department service at a level considerably above existing averages but not beyond the power of reasonably populous and prosperous counties to attain. In Tennessee, Oklahoma, Mississippi and Alabama the Fund is throwing its weight behind a general forward movement in local public health service—a movement up to the line now defined by prevailing practice in leading rural health departments of this country," the report states.

That conditions are far from what is regarded as satisfactory is shown by the following statements from the report:

"In the counties organized for health service there is much to be done before Oklahoma will rank with Tennessee or Mississippi. Vital statistics are inadequate; the reporting of communicable diseases is incomplete; infant, pre-school and school services are indifferent.

"Yet, on the strength of experience the Seminole county (the demonstration area) a number of health departments are preparing to use darkfield equipment in the diagnosis of early syphilis, an index of good service; nurses visiting pregnant women are in most instances taking urine and blood for laboratory examination and making blood pressure determinations, the finds being reported to the attending physician; classes are held in the hygiene of food handling and even a town of 400 souls has adopted a standard milk ordinance (Okarche).

"The health department in Seminole county is attacking its large job with vigor and apparently to the satisfaction of the public. The state health department has been strengthened by a number of new appointments and the Fund has taken steps to aid in building up the laboratory."

Seminole county is the "demonstration area" in Oklahoma, having a health department personnel of 22, a force large enough to give residents of that county public health service which is considered adequate in the light of present developments. The enlarged personnel is made possible through financial support from Seminole county, the state health department and the United States Public Health service, in addition to the Commonwealth Fund. The last fiscal year budget for this county totaled \$48,000.00, which is considerably larger than that used in the other counties having health departments.

In three of the states where the Commonwealth Fund

DR. WHITE'S SANITARIUM

NERVOUS AND MENTAL DISORDERS; ALCOHOLISM AND DRUG ADDICTIONS



Wichita Falls, Texas

M. W. CASKEY, Ph.D., M.D.
Medical Director

GUY V. TAYLOR
Business Manager

Modern fire-proof building.
All latest methods of diagnosis and treatment.

is interested, "the pattern of public health development is much the same," according to the report.

"In county after county a full-time health department is organized; the state health department fixes general policies and prescribes technical methods; specialists forming a field unit circulate among the full-time health departments to teach, advise and assist the local workers, drawing on the technical resources of the state health department at need, and illustrating some of the suggestions they have to make by pointing to the experience of the demonstration counties," the report explains.

"The major function of the public health program, then, has been to assist in bringing local health work in Oklahoma, Tennessee, Mississippi and Alabama up to a high standard, or at least to stimulate progress in that direction," the report concludes.

Group Hospital Service News

At the beginning of the new year, Group Hospital Service has extended its protection to 15,000 persons.

Seven hundred hospital bills have been paid for members since the inauguration of the plan last April.

A few of the larger groups to accept Group Hospital Service during the past month are: Oklahoma University, Norman (faculty members and staff); Pure Oil Company; E. I. Du Pont de Nemours and Co., Inc.; Atlas Life Insurance Company; Tulsa Hotel (almost 100 per cent); Tulsa Public Schools; Bartlesville Public Schools; Dewey Portland Cement Company, National Zinc Company.

We have often used the expression, "Group Hospital Service is an Approved Plan." It has just occurred to us that although it means so much to us and to our

members, its full significance might not be realized by them. We want to remind all Group Hospital Service members just what it means to be enrolled in an "Approved Plan."

An Approved Plan is one that has met the requirements of the American Hospital Association as recommended by their Commission on Hospital Service. This body has set up certain standards for the organization and conduction of Non-Profit Community-Service Plans, and by conforming to these standards and requirements a Hospital Service Plan can offer its members the assurance of having the soundest financial structure available, and the widest possible extension of benefits consistent with sound business practice.

Here are some of the fundamental principles:

1. Service must be offered on a non-profit community basis.
2. Enrollments must be secured on a group basis.
3. Subscription fees must be collected on a payroll deduction basis or its equivalent.
4. The Plan must provide a service contract, and not a cash indemnity to the subscriber.
5. Participating Hospitals must fully guarantee the performance of the Plan.

In addition to the approval of the Commission on Hospital Service of the American Hospital Association, Group Hospital Service is subject to the same close supervision of the Oklahoma Departments of Insurance that governs any commercial insurance company.

Two Oklahoma City physicians were guest speakers at a meeting January 25 of the members of the Custer County Medical society. The guests and the subjects which they discussed were: Dr. Harry C. Ford, "External Otitis and Sinuses," and Dr. Arthur White, "Common Gastric Disorders." The first meeting to be held in February is February 21 at Harry's Cafe in Clinton.

*For the Local Treatment
of Acute Anterior*

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(DUE TO NEISSERIA GONORRHEAE)

SILVER PICRATE *

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Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by Neisseria gonorrhoeae. (1) An aqueous solution (0.5 per cent) of silver picrate or water-soluble jelly (0.5 per cent) are employed in the treatment.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph. Gon. & Ven. Dis., 23, 201 (March) 1939.

*Silver Picrate, is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

MEDICAL PREPAREDNESS

35 Counties Make Complete Return on Questionnaires

A complete return of questionnaires for the Medical Preparedness program has been made by doctors in 35 counties in Oklahoma, latest reports this month showed.

In addition to these 35, reports and impartial returns from seven other counties have been received by the Oklahoma State Medical Association which in January appealed to each county chairman to contact personally each member of his society who had not yet filled in a questionnaire.

The Executive Office has received a total of 62 questionnaires since that appeal. As this figure does not represent the number of Preparedness schedules which were yet to be filled in in order that the Oklahoma doctors' answer to the United States Medical Defense program might be unanimous, a final appeal is made to each doctor in the state to be certain that his questionnaire has either been filled out and mailed or placed in the hands of his county chairman.

Every person with a medical degree is expected to fill out the schedule regardless of age, physical condition or whether or not he is in active practice. Therefore, no doctor should neglect filling out his schedule because he is in retirement or because his age will prevent his taking an active part in the medical service of the United States forces.

If you have not yet filled in your questionnaire, please contact your county chairman or, if a questionnaire is already in your hands, fill it in and return it to 210 Plaza Court, Oklahoma City.

The names of the 35 counties which have completed schedules and their respective chairmen are given in the list which follows.

County	Chairman
Alfalfa	L. T. Lancaster, Cherokee
Atoka-Coal	J. S. Fulton, Atoka
Blaine	A. K. Cox, Watonga
Bryan	R. E. Sawyer, Durant
Canadian	Joseph T. Phelps, El Reno
Carter	F. W. Boadway, Ardmore
Cherokee	J. S. Allison, Tahlequah
Cleveland	W. T. Mayfield, Norman
Cotton	M. A. Jones, Walters
Creek	G. C. Croston, Sapulpa
Custer	McLain Rogers, Clinton
Garvin	John R. Calloway, Pauls Valley
Grant	E. E. Lawson, Medford
Greer	J. B. Hollis, Mangum
Harmon	S. W. Hopkins, Hollis
Jackson	E. S. Crow, Oolustee
Jefferson	L. L. Wade, Ryan
Kingfisher	John W. Pendleton, Kingfisher
Lincoln	John S. Rollins, Prague
Love	James L. Patterson, Duncan
McClain	W. C. McCurdy, Purcell
Mayes	V. D. Herrington, Pryor
Nowata	W. Albert Cook, Tulsa
Pawnee	R. E. Jones, Pawnee
Pittsburg	R. K. Pemberton, McAlester
Pontotoc	M. M. Webster, Ada
Pottawatomie	James M. Byrum, Shawnee
Roger Mills	J. M. Bonham, Hobart
Rogers	W. Albert Cook, Tulsa

Stephens	W. S. Ivy, Duncan
Texas	R. B. Hayes, Guyman
Tulsa	James L. Miner, Tulsa
Washington	J. V. Athey, Bartlesville
Washita	A. H. Bungardt, Cordell
Woods	O. E. Templin, Alva

Oklahoma Doctors Answer Call For Medical Preparedness

The number of Oklahoma doctors who have joined the medical division of the United States Army and Navy is increasing each month.

The list below of doctors called for active service has been compiled from information found in the A. M. A. Journals, press clippings, postcards for change of address, and secretaries of county medical societies. Records as to place of present location are not complete.

Anderson, W. D., Claremore, Randolph Field	Johnson, George E., Ardmore
Beaty, Sam, Cherokee	Kroovand, William H., Okla. City
Beeler, T. T., Jr., Norman, Ft. Sill	Le Hew, Elton, Pawnee, Ft. Sill
Bishop, Calmer P., Picher	Lowery, Robert, Poteau
Bloss, C. M., Okemah, Camp Grant, Rockford, Ill.	Lyons, Dave J., Seminole
Bullock, Bernard, Clinton	Maril, Joseph J., Okla. City
Carlock, J. Hoyle, Ardmore, Carlisle, Pa.	Martin, Howard C., Okla. City
Cassidy, Chas. S., Chandler	Maupin, Clinton S., Waurika
Coker, B. B., Durant, Navy, Corpus Christi, Texas	McDonald, Glen W., Ada, Ft. Sill
Coley, Joe H., Okla. City, Second Marine Brigade, San Diego	McMillan, James M., Vinita
Collette, E. L., Dewey, Camp Shelby, Miss.	Miles, John B., Anadarko
Cooley, Ben H., Norman	Miller, Jack E., Okla. City
Darnell, Elmer E., Colony	Murray, Edward Cotter, Ada
Davenport, John R., Holdeuville	Patterson, Fred Lindley, Jr., Mt. View
Davidson, Harold J., Tulsa	Paul, Wm. G., Durant Anchorage, Alaska
Drummond, Robert N., Oklahoma City	Paulson, A. W., Clinton
Elkins, Marvui G., Jr., El Reno	Pigford, Charles A., Tulsa
Emenhiser, Lee K., Okla. City, Ft. Sam Houston, Texas	Pittman, Cole D., Tulsa
England, M. D., Woodward, Ft. Sam Houston, Texas	Pollack, Simon, Tulsa
Ensey, J. E., Altus, Ft. Sill	Ragan, Tillman A., Fairfax, Ft. Ringgold, Rio Grande City, Texas
Foerster, Hervey, Okla. City	Roberts, Charles J., Enid
Ford, Richard B., Tulsa, Naval Reserve	Rogers, Galen A., Tahahina
Fox, Fred T., Lawton, Ft. Sill	Routon, Benjamin C., Okla. City
Fry, F. P., Frederick, Ft. Sam Houston, Texas	Rubin, Herschel J., Tulsa
Fulmer, Roy H., Ringling	Rucker, Ralph W., Bartlesville
Funk, G. D., El Reno	Sanger, Welborn W., Okla. City
	Shorbe, Howard B., Okla. City
	Smart, Wm. R., Okla. City Naval Reserve
	Smith, Haskell, Stillwater

Gallaher, Frank C.,
Shawnee
Hamm, Leslie T.,
Okla. City
Hays, Hugh, Clinton,
Ft. Sill
Harwitz, Morris, Geary
Hefferson, George Allen,
Seminole
Hollingsworth, Charles E.,
Chickasha
Hollis, Lynn E., Hollis
Ft. Sam Houston, Texas
Howard, Robert Bruce,
Oklahoma City
Ft. Sam Houston, Texas
Hubbard, John R.,
Okla. City
Hubbard, Ralph L.,
Okla. City
Hucherson, Denman Carter,
Okla. City

Smith, L. P., Marlow
Starkey, Wayne, Altus,
Ft. Sill
Stough, Austen R.,
McAlester
Stowers, Aubrey E.,
Sentinel, Ft. Sill
Stuard, Charles G., Jr.,
Tulsa
Watson, Isaac Newton,
Edmond
Weaver, William Niebuhr,
Muskogee
Webster, Wm. H., Ada,
Ft. Sill
Wilson, Charles H., Okla.
City, Ft. Sill
Wright, Jack McClellan,
Stillwater

ORDERS REVOKED

Angus, Howard, Lawton	Kerne, Paul, Okla. City
Dimond, Edgar, Muskogee	Prosser, Moorman P.,
Doyle, Wm. H., Muskogee	Norman
Gallagher, C. A.,	Smith, Haskell, Stillwater
Okla. City	Switzer, Fred D., Hugo
	Turnbow, Wm. R., Tulsa

University of Oklahoma School of Medicine

Dr. Paul C. Colonna, Professor of Orthopaedic Surgery, and Dr. Denman C. Hucherson, Fellow in the Department, presented an exhibit at the recent meeting of the American Academy of Orthopaedic Surgeons in New Orleans January 12th to 16th. This exhibit reviewed in detail the results of "A Survey of Paralytic Scoliosis in Oklahoma," illustrating by placards, x-rays and lantern slides the results to date in the examination of 713 patients with infantile paralysis within this state. Of this number of cases, 189 cases presented paralytic scoliosis and this group was analyzed in detail.

The Scientific Committee of the American Academy of Orthopaedic Surgeons presented both Dr. Colonna and Dr. Hucherson with a certificate of Honorable Mention for this exhibit.

Another postgraduate course in Obstetrics was started on February 3rd and will extend through February 8th. This course covers an intensive period of training in Obstetrics by means of lectures, clinics and demonstrations. The course is under the immediate supervision of Dr. Edward N. Smith, Associate Professor of Obstetrics. Dr. Smith was appointed to this position in February, 1940. For two years previous to that date, he gave lectures in Obstetrics under the auspices of the Oklahoma State Medical Association.

The establishment of the graduate work in Obstetrics was made possible through the cooperation of Dr. Grady Mathews, State Commissioner of Health, and the Children's Bureau cooperating with the State Department of Health.

Through the cooperation of the State Health Department, an Obstetrical Annex was established at 1210 North Phillips. Mrs. Ardeth Rogers Gillis, under the supervision of Dr. Smith, established mothers' classes. To date, 900 mothers have attended and received instruction in diet, etc.

Here is the **OKLAHOMA GROUP** *Liability Insurance!*

✓ This is the most liberal malpractice insurance policy ever offered the medical profession in this state. It covers all the usual malpractice risks, with other features to be found in no other policy.

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✓ For Professional Liability insurance which really gives you protection—call your own insurance agent; ask the Secretary of your local County Medical Society; or write the Executive Secretary of the Oklahoma State Medical Association for complete information.

*Written by Oklahoma
doctors for doctors
of Oklahoma*

BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

BENJAMIN FRANKLIN. By Carl VanDoren, Price \$5.00. Pp. 845. New York: The Viking Press, 1938.

In this remarkable volume of 800 pages, with comprehensive bibliography and index, VanDoren has given the most complete life story of "the boy who walked the streets of Philadelphia munching on a loaf of bread, the youth who rose from printer's devil to become the New World's first great publisher, the man who invented stoves for his compatriots' warmth and designed lightning rods for their safety, the executive who gathered supplies for Braddock's march into the wilderness, the sage who signed himself Poor Richard, the diplomat who raised a loan in France to gain his country's freedom, the patriot who shared in framing the Declaration of Independence, the Constitution, and the Treaties with Britain and France—this was still only a part of Benjamin Franklin. Quite possibly, Franklin was the greatest man the Western Hemisphere has produced; certainly he stood head and shoulders above his contemporaries. No wonder that writers until now have failed to paint this man in full stature."

The above quotation does not tell the whole story. The book also contains numerous references to Franklin the scientist and investigator. His activities in this field alone would have given him a high place among the immortals. His knowledge of medicine was remarkable. He was 200 years ahead of his time with reference to personal and household hygiene, heating and ventilation, and in his knowledge of the nature and management of the common cold. He had a fairly good idea of heat-stroke and how to prevent it; he invented the flexible catheter and bifocal glasses. In addition he wrote about gout, inoculation against smallpox, death rate in infancy, infection from dead bodies and the treatment of nervous diseases by the use of electricity.

He was instrumental in the founding of the University of Pennsylvania, the Pennsylvania Hospital (the first in America) and he helped develop the first medical school. His influence upon the development of modern medicine and medical education in the United States would be difficult to estimate. This came about chiefly through his friendship with Fothergill of London and Cullen in Edinburgh. Through these connections he encouraged young American doctors to study abroad and secured for them the best possible advantages.

Running through 26 successive chapters, VanDoren's interesting story reveals composite biographical pictures which would be a part of every doctor's mental collection. Franklin's wisdom and wit and his scientific and philosophic accomplishments are well presented. A notable genius with unusual imagination, originality, initiative, ingenuity, facility and fertility.

FOREIGN BODIES LEFT IN THE ABDOMEN; The Surgical Problems, Cases, Treatment, Prevention; The Legal Problems, Cases, Decisions, Responsibilities—by—Harry Sturgeon Crossen, M.D., School of Medicine, Washington University and David Frederic Crossen, LL.B., School of Law, Washington University, St. Louis, Mo. with 212 illustrations including 4 color plates—The C. V. Mosby Company, 1940.

This is a very interesting book covering the prevention, treatment and legal problems connected with the subject. Of particular interest is the prevention and there are many excellent directions given and if these are carried out the complication seldom exists.

There are 212 excellent illustrations including x-rays and the subject is certainly completely covered. The book will be of interest to anyone doing abdominal surgery.

PRINCIPLES OF SURGICAL CARE, SHOCK AND OTHER PROBLEMS. By Alfred Blalock, M.D., Professor of Surgery, Vanderbilt University School of Medicine, Nashville, Tennessee. Illustrated. The C. V. Mosby Company, 1940.

plication to be dreaded. However as a result of recent plication to be dreaded however as a result of recent investigation of its causes it would seem to be largely preventable.

Blalock in this book outlines measures for the prevention of shock which are practical and in his experience have proved successful. There are chapters dealing with anesthesia, surgical technique, disorders of the circulatory system, metabolic and nutritional disturbances, post operative, pulmonary and abdominal complications.

The arrangement of the material and concise presentation make this a very valuable book and should be made a part of the library of any surgeon.

TEXTBOOK OF NERVOUS DISEASES, By Robert Bing, Professor of Neurology, University of Basel, Switzerland. Translated and enlarged by Webb Haymaker, Assistant Clinical Professor of Neurology and Lecturer in Neuro-Anatomy, University of California. From the fifth German Edition. With 207 illustrations including 9 in color. The C. V. Mosby Company, 1939.

This is a translation by Dr. Webb Haymaker of Professor Bing's original work. It has been taken out of the lecture form and an attempt has been made to retain Professor Bing's informal style of presentation. It is hoped by the translator that the American reader will respond favorably to this translation.

DISEASES OF THE DIGESTIVE SYSTEM, A TEXT BOOK FOR STUDENTS AND PRACTITIONERS. By Eugene Rosenthal, M.D., Lecturer in the Medical Faculty, Royal Peter Pazmany University, Budapest, Hungary. With a preface by R. J. V. Pulvertaft, M.D., F.R.C.P., Reader in Pathology, University of London, Director of the John Burford Carllil Laboratories and Curator of Museum, Westminster Hospital School of Medicine. With 234 illustrations, including 104 in colour, and 16 tables. The C. V. Mosby Company, 1940.

This work has been divided for a consideration due to chapters dealing with the oesophagus, diseases of the stomach and intestines, diseases of the biliary tract, diseases of the pancreas and diseases of the peritoneum.

Methods of examination are described and illustrated, in fact the entire text is filled with explanatory illustrations which increase the interest in the text. The subject is fully covered and makes excellent reading.

BOOKS RECEIVED

"IT IS YOUR LIFE," by Max M. Rosenberg, M.D., New York. Sub-title: "Keep Healthy—Stay Young—Live Long." Published by the Scholastic Book Press, 158 East 22nd Street, New York, 1940, 450 pages, illustrated, \$2.50.

"TABER'S CYCLOPEDIA MEDICAL DICTIONARY, including a Digest of Medical Subjects: Medicine, Surgery, Nursing, Dietetics, Physical Therapy." By Clarence Wilbur Taber and 14 associates. 1488 pages with 273 illustrations. Published by F. A. Davis Company, Philadelphia, 1940. Cloth, Thumb-indexed \$3.00; Plain, \$2.50.

REVIEWS and CORRESPONDENCE

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D., F. A. C. S.
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"The Treatment of Claw-Foot." Wallace H. Cole, M.D. Jr. *Bone & Joint Surg.* Vol. XXII, No. 4, Oct. 1940.

It is pointed out by the author that claw-foot has been well covered in the literature recently, but he outlines certain features, which are generally consistent of the cavus deformity of the foot with a secondary contracture of the toes in hyperextension at the metatarsophalangeal joints and flexion of the distal interphalangeal joints.

These cases are most frequently considered idiopathic, although it is usually the result of some central nervous system disorder, particularly spina bifida occulta and infantile paralysis. This is merely a symptom of underlying conditions then, rather than a typical clinical entity.

In mild cases the contracture can be prevented and the cavus kept to a minimum without surgery. There should be daily manipulation with flattening of the arch, stretching of the plantar structures with advised exercises to strengthen the dorsiflexors of the foot without permitting cocking of the toes. In the shoe an anterior arch bar is usually applied, and a night splint with an anterior bar incorporated is used.

The next type of case would require more radical procedure, such as plantar stripping, or complete stripping such as Steindler has described. For more severe cases Modified Hibbs operation is used, in which the extensors to the toes are transplanted back into the cuneiform bone. This particular procedure is advised rather than into the heads of the metatarsals, in that the author feels stronger dorsiflexion is permitted. The interphalangeal joint of the great toe must be arthrodosed in this type. In cases with bone deformity of any marked degree, he advises a wedge osteotomy through the anterior tarsal bones, rather than through the mid tarsal joints between the talus and the cuneiform.

He shows several cases treated by this method, with excellent results.

It is important that the general practitioner recognize that severe claw-feet can be corrected properly and with excellent results, and prevent further pain and disability in later life.

"The Local Use of Sulfanilamide in Various Tissues." J. Albert Key, M.D. Charles J. Frankel, M.D. & Thomas H. Burford, M.D.: Jr. *Bone & Joint Surg.* Vol. XXII, No. 4, Oct. 1940.

The authors state that any review of the literature on sulfanilamide is certainly beyond the scope of this paper, but they suggest the following as true:

"1. When the drug is administered by mouth or parenterally to man or to laboratory animals it enters the blood stream and is excreted rather rapidly.

2. When sulfanilamide is given in therapeutic doses, the blood of the recipient becomes bacteriostatic for beta-hemolytic streptococci and for certain other suscep-

tible bacteria. As a result, many patients infected with susceptible bacteria recover when the drug is administered. Likewise, laboratory animals treated with sulfanilamide survive lethal doses of susceptible bacteria.

3. Since the drug is excreted rather rapidly, effective treatment requires that the dose of the drug be repeated about every four to six hours and that an adequate concentration (about ten milligrams per 100 cubic centimeters) be maintained in the blood until the infection is eliminated. This means that the drug must be continued for several days after the disease has apparently been arrested, as living but static or dormant bacteria may still remain in the tissues and may begin to grow and reproduce the disease.

4. In therapeutic doses the drug is slightly toxic to most patients and is very toxic to certain patients who are hypersensitive to it. However, it is to be noted that the few fatalities which have been recorded in the literature have occurred rather late in the use of the drug and in patients who have received from 30 to 100 grams of sulfanilamide.

5. The manner in which sulfanilamide acts is not known. It affects the bacteria directly, and does not increase the resistance of the infected animal. Consequently, the drug must come in contact with the bacteria in the animal body.

6. In therapeutic doses the drug is not bactericidal. It merely inhibits the rate of growth of susceptible bacteria which are then eliminated by the natural resistance of the animal. Consequently, treatment of the disease may be rendered more effective by measures, such as immune serum, which increase the resistance of the animal.

7. The drug diffuses from the blood into the body cavities and into the tissues of the animal. The concentration probably varies in different tissues, but it is less than that present in the blood at the same time.

8. The drug exerts its principal effect on generalized infections and has relatively little effect upon local lesions."

Two questions are then asked:

1. Should the drug be sterilized before it is placed in the wound?

2. Does the drug damage local tissues?

In answer to the first question the doctors placed an excess of the drug in culture media and inoculated it with various concentrations of streptococci, staphylococci, and Welch's bacilli. These were then incubated at 37 degrees centigrade, and in all tubes the bacterial growth was inhibited, but only the streptococci were killed. The other organisms continued to grow. Therefore, they believe that the drug should be sterilized by placing the dry powder in a flask and putting it in the autoclave.

The second question was answered by experimentation with animals in which they checked the wounds in which the drug was placed. It was found there was some slight deleterious action on the healing of the wound, but not sufficient to warrant discontinuing its use, even in clean wounds. Healing progressed at almost the same rate as in the wounds in which sulfanilamide was not used. There was no disturbance in the healing of fractures as was found in a previous

article which they had written. Various other tests were done which were conclusive that there is no essential reaction in the tissues that would warrant its not being used.

It is felt by the authors that the use of powdered sulfanilamide in a wound is similar to a test-tube experiment in which a concentration of the drug of approximately 1000 milligrams is brought into contact with any bacteria which may be present in the media. In such concentrations the drug is effective against small numbers of staphylococci and of Welch's bacilli, and against large numbers of streptococci. Infection may thus occur if there is a large number of staphylococci or Welch's bacilli.

They feel that the local implantation is very safe in operative wounds in which infection may occur; it is safe in the use of joints; that it should be sterilized before placing in wounds and that while it slightly inhibits the primary healing of a wound, it is not to such degree to contraindicate its use. It may be used repeatedly in open infected wounds, and will not seriously interfere with their healing.

These articles abstracted by Howard B. Shorbe, M.D.

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments From
LeRoy Long Clinic

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"Retrodisplacement of the Uterus in Relation to Pregnancy." By Albert H. Aldridge, B.S., M.D., F.A.C.S., New York, N. Y.; American Journal of Obstetrics and Gynecology, September 1940, Volume 40, No. 3, Page 361.

This is an article dealing with the indications and contraindications for operation to correct retrodisplacement of the uterus. The author also describes in detail the technique of the Bissell operation, one which shortens the round ligaments and also plicates the fascia within the broad ligament.

Aldridge has well summarized his article as follows:

"1. These conditions (retroversion and its associated conditions) are not infrequently the cause of sterility, early abortion, and unpleasant symptoms following abortion and delivery.

"2. Unless it is known that retroversion preceded pregnancy, postabortal and post partum retroversion should be treated by palliative means to reduce the incidence of permanent retrodisplacements of the uterus.

"3. Selection of cases for treatment by surgical means should be based on painstaking physical examinations and therapeutic tests to be sure that preoperative pelvic symptoms are gynecologic in origin.

"4. Associated functional and pathologic conditions of the uterine adnexa more frequently constitute indications for operation than retrodisplacement of the uterus.

"5. Operations for the cure of retroversion and its associated conditions should usually be aimed at preserving the child-bearing function and establishing anatomic and physiologic conditions which will be favorable for subsequent pregnancies.

"6. Retroversion of the uterus is caused by relaxation of the broad as well as the round ligaments.

"7. Operations for the cure of retrodisplacements of the uterus should be done by techniques which restore the function of the broad as well as the round ligaments.

"8. The incidence of failure in operations for retroversion could probably be reduced if conception could be postponed until at least six months after operation."

Comment: This is an important subject because of the prevalence of retrodisplacement of the uterus and because of the multiplicity of operative procedures for the correction of such displacements.

There are able gynecologists who staunchly insist that operations should never be done for the correction of uterine displacement. It is generally felt that their convictions have been established upon the basis of the many ill-advised procedures when they were not particularly indicated.

There are others who feel that most, if not all, of the symptoms associated with retrodisplacement would be corrected by the removal of pathological changes such as chronic cervicitis.

The multiplicity of operative approaches for the correction of retrodisplacement is evident in a brief study of any gynecological operative manual. Several years ago there were 170 odd operations listed in Crossen's Operative Surgery for the correction of retroversion of the uterus.

Obviously, the extreme views are not justified. The greatest care and conscientiousness must be employed to properly evaluate the symptoms which occur in a woman with a retrodisplacement of the uterus. If it is felt that sufficient investigation has been carried out to honestly attribute the symptoms to the retroversion of the uterus, such pathological changes as chronic cervicitis should be corrected and in the persistence of symptoms which are conscientiously felt to be arising from the retrodisplacement, a proper operation, very conservative in character, is indicated for the correction of this disease. Dr. Aldridge's plea for the employment of both round and broad ligaments is well taken and either the Bissell operation or one of the modifications of the Gilliam will usually meet all of the requirements and will not interfere with subsequent pregnancies. Likewise, if the operation is well done, the recurrences even after pregnancies will be extremely small in number.

Wendell Long.

"Hypoproteinemia And Its Relation To Surgical Problems." By I. S. Ravdin, Annals of Surgery, October 1940, Page 576.

During the past twenty years innumerable papers have been written on the fluid and electrolyte loss in persistent vomiting, in diarrhea, following extensive superficial burns, and in many other conditions, but until very recently, with the exception of the papers dealing with shock following trauma, very little has appeared in clinical literature on the important part that an adequate concentration of the plasma protein plays in keeping fluid in blood vessels. No consideration of fluid and electrolyte loss and their restitution is sufficient unless the plasma protein is simultaneously considered. Surgeons are just now beginning to realize the importance of plasma volume in a wide variety of conditions.

Many of the patients coming to the surgeon for operation have, as a result of restriction of diet resulting from a variety of causes, from visceral injury, or from excessive plasma loss, a reduction, not only in the concentration of plasma protein but also in the total available plasma protein. A reduction in the total plasma protein usually occurs before a reduction in the concentration. Even though the concentration of the plasma protein is normal when patient is first seen, it may fall sharply when fluids are administered in attempting to overcome an existing dehydration. Observations also strongly support the concept that there is no such thing as a critical level of the plasma protein at which edema becomes manifest. As soon as the plasma protein falls below the normal concentration, fluid begins to leave the vessels resulting first in a latent, and, finally, when the accumulation of fluid in the tissues is great enough, in an evident edema.

Although the final pictures may be similar, the primary factors involved in hypoproteinemia in many conditions are, of course, quite dissimilar. In extensive superficial burns the hypoproteinemia is the result of the excessive loss of plasma protein into the tissues. The hypoproteinemia associated with hepatic disease is no doubt due to a defect in protein synthesis, while the

hypoproteiemia encountered in gastric and duodenal ulcer and cancer results frequently from protein restriction in the diet.

Evidence now available shows that in starvation or on diets low in protein the protein content of certain viscera, especially the liver, is markedly reduced. In protein under nutrition the tissue stores of protein may suffer before hypoproteinemia is excessive. The stores of protein mobilized under these conditions have been designated by Whipple as "liable protein."

When adequate protein feeding is begun, the depleted stores of visceral protein must be at least partly replenished during the period of plasma protein regeneration. Tissue and plasma protein depletion and regeneration must, therefore, under many conditions go on simultaneously, the one complementing the other.

Hypoproteinemia has an effect on gastro-intestinal motility. It intensifies the edema of trauma naturally occurring at the site of gastro-intestinal suture. Under normal conditions of fluid exchange the edema of trauma begins to disappear 48 to 72 hours after operation, but in the presence of hypoproteinemia it continues to increase during this period, resulting in a mechanical impediment to the forward progress of the gastric contents.

Furthermore, when gastric contents pass into the small bowel the process is further restricted by a coincidental, though less marked, decrease in small intestinal motility.

The convalescence of these patients will be smoother and the incidence of untoward complications will be reduced if nutritional deficits are, if possible, corrected prior to operation, or as soon as possible after operation.

Ravdin has found that the most satisfactory rapid means of correcting protein deficiency is by repeated plasma transfusions. He says that they are well tolerated and rarely associated with the post-injection reactions so frequently observed after employing serum. They believe it is better to administer small amounts of plasma repeatedly over a long period, than to inject large amounts during a very short period. When more time is available and after operation upon patients whose "labile stores" of protein are thought to be very low, the orojejual method is useful and practical.

Hypoproteinemia may be an important factor in wound healing. It is well known that cellular repair and regeneration require protein, for in the absence of an adequate amount of certain essential amino-acids growth cannot take place. It has been shown that a high protein diet causes acceleration in fibroblastic proliferation in wounds. Protein also has an important influence in preventing visceral injury. Ravdin in a study of the protective action of oxygen against liver injury, when certain hepatotoxic anesthetics were employed, noticed the relation of the dietary regimen to the susceptibility of the liver to damage by these same agents. Everyone agrees that high carbohydrate diet is efficacious in preventing liver injury to patients with hepatic disease.

In contrast to the indirect protection afforded by carbohydrates the protection afforded by protein would seem to be a direct one, perhaps related to some intrinsic value of the protein itself.

The author draws the following conclusions:

"An attempt has been made to demonstrate that a protein deficiency may be of serious significance in surgical patients. The reduction of the plasma protein, both in concentration and total amounts, frequently is associated with a reduction in the amount of protein stored in certain viscera. A reduction in the concentration and total amounts of the plasma protein as well as the so-called "labile stores" of body protein may result in the failure of a newly formed gastro-enteric or intestinal anastomosis to function normally, to impairment of normal fibroblastic proliferation and to increased susceptibility of certain viscera to damage by hepatotoxic agents."

LeRoy D. Long.

"Parenteral Administration Of A Water-Soluble Compound With Vitamin K Activity." By Edward R. Anderson, M.D., John E. Karabin, M.D., Herbert Udesky, M.D., and Lindon Seed, M.D., Chicago, Illinois; *Archives of Surgery*, November 1940, Volume 41, Number 5, Page 1244.

Since the advent of the use of vitamin K for the prevention of hemorrhage due to hypoprothrombinemia, efforts have been made to produce a form which could be administered parenterally. The early commercial forms of vitamin K were plant extracts of an oil nature. The first synthetic substance having vitamin K activity, 2-methyl-1, 4-naphthoquinone, was relatively insoluble in water, and hence inconvenient for parenteral use.

Parenteral administration of vitamin K has several advantages over oral administration. By the oral route, there may be a lack of absorption due to intestinal obstruction, paralytic ileus, or some other intestinal complications. In many cases it is impossible for the patient to retain the vitamin K compound because of nausea and vomiting. Another factor to be mentioned is the necessity for bile salts to be given in conjunction with vitamin K by mouth. Parenteral vitamin K needs no bile salt administration.

A water-soluble compound with vitamin K activity, 4 amino-2 methyl-1-naphthol hydrochloride, has been synthesized by Doisy and his associates. It is called vitamin K-5 by Parke, Davis & Company. This substance was used by the authors in 18 patients. Seventeen responded favorably, while one did not. The patient who failed to respond had acute yellow atrophy of the liver.

The authors found that intravenous administration is superior to intramuscular. The intravenous dose is 2 to 3 mg. daily. The response occurs within three-quarters of an hour to one and one-half hours after administration. The maintenance dose of the vitamin K active compound depends upon the individual patient and can be found only by repeated prothrombin determinations.

Comment: It is interesting to note that recently the Abbott Company announced that they had combined sodium bisulfate with the water insoluble vitamin K, 2-methyl 1, 4-naphthoquinone and formed the compound 2-methyl, 1, 4-naphtholhydroquinone—3-sodium sulfonate which is water soluble. It is marketed under the trade name "Hykinone", and may be administered subcutaneously, intramuscularly, or intravenously.

We have had no personal experience with the use of vitamin K-5, but we have found Hykinone to be a very satisfactory drug in treating hypoprothrombinemia.

Warren Poole.

"Essential Problems In The Surgical Treatment Of Inguinal Hernia." By Leo M. Zimmerman, M.D., F.A.C.S., Chicago, Illinois, *Surgery, Gynecology And Obstetrics*; November 1940, Vol. 71, No. 5, Page 654.

According to the author, there is a widespread tendency among surgeons to approach the problem of the surgical treatment of inguinal hernia from the standpoint of routine application of one or another of the standard operations without due consideration to the actual anatomical lesion to be corrected.

Much of the confusion regarding the repair of inguinal hernia is due to the failure to differentiate adequately between direct and indirect types. These are two distinct diseases, based upon different congenital anatomical predisposing characteristics, producing different defects, requiring correspondingly different surgical attacks, and with different prognoses.

Indirect hernia is due primarily and solely to the persistence in toto or in part of the processus vaginalis testis. Only the persistence of an embryonic structure can lead to the development of a hernia through the internal ring. There is no evidence that any amount

of force or trauma can otherwise produce such a protrusion. The evidence for this dogmatic statement lies in the unvarying position and attachment of the sac with reference to the cord structures. This is too constant to be considered the result of an accidental rupture through the abdominal wall.

Direct inguinal hernia begins in a manner totally different from the indirect variety. It is due to a failure or absence of the lowermost fibers of the internal oblique muscle. In certain individuals the fleshy body of the internal oblique ends with more or less horizontal fibers arising at the level of the internal ring and inserting into the rectus sheath. This leaves a triangular area of variable size in which there is no muscular covering for the transversus aponeurosis constituting the posterior wall of the canal. In such cases the entire intra-abdominal pressure is exerted upon the aponeurotic floor of the canal. If the aponeurotic fibers become stretched and weakened sufficiently, a direct hernia results.

Thus it is seen that an indirect hernia is a protrusion into a pre-formed sac with secondary dilatation of the internal ring. Logical treatment, therefore, should consist in removing the sac, and narrowing the ring to its normal dimensions. Further building up of the posterior wall of the inguinal canal has no bearing whatever on preventing eventual recurrence of the hernia.

Direct hernia, on the other hand, is a protrusion through a torn and stretched posterior fascial wall, due to the absence of overlying muscular support. Here the problem is the repair of a hole in the fascial floor and subsequent reinforcement to prevent further herniation. Since there is no way to make muscle grow where there is none, a fascial plastic operation must be done. An ideal operation should approximate fascia to fascia over a broad surface without tension and with no interposed muscle or fatty tissue. If possible, the reinforcing fascial layer should retain its source of blood supply.

The author describes his technique for accomplishing the aforementioned requirements of an adequate repair of an inguinal hernia.

Warren Poole.

"Pelvic Tuberculosis." By A. H. Lahmann, M.D., F.A.C.S., and S. F. Schwartz, M.D., Milwaukee, Wis., *American Journal of Obstetrics and Gynecology*, September 1940, Volume 40, Number 3, Page 439.

This is an article reviewing the incidence and the various forms of treatment for pelvic tuberculosis and also reporting the study of 21 patients with tuberculosis involving the female genitalia treated by these authors.

The authors recall the fact that it has been frequently estimated that genital tuberculosis constitutes from five to eight per cent of all pelvic inflammatory conditions. Because the symptoms and signs are not typical and closely resemble those of numerous other diseases affecting the female genitalia, differential diagnosis remains a major problem and in their series they did not make a single accurate preoperative diagnosis of genital tuberculosis.

Genital tuberculosis is usually secondary to tuberculosis elsewhere in the body but in their series of patients pulmonary involvement was found in only 20 per cent. However, genital tuberculosis occurs most frequently in the years of active sex life and in their study 80 per cent of the patients were between 20 and 30 years of age.

There is a marked tendency for the disease to descend from the tubes to the endometrium and it involves most commonly the organs in the order mentioned: (1) tubes 90 per cent, (2) endometrium 75 per cent, (3) ovaries 30 per cent, (4) cervix 5.5 per cent, and vagina and vulva, 0.5 per cent. There is apparently no tendency for the disease to spread to the urinary tract.

These authors discuss the marked differences of opinion existing as to the method of treatment of genital tuberculosis. Surgery is advocated by a majority of gynecologists but, in those advocating surgery, there are two groups: (1) those who feel that they can determine the extent of the disease and adopt conservative surgical measures and (2) those who insist that more radical treatment is the method of choice because of the frequency of involvement of both tubes and the endometrium.

These authors quote extensively from Jameson (quotations will be taken from Jameson's article in 1934 in the comment following this abstract) and remark that he reports the mortality to be 10 per cent higher when conservative operations are performed and feels that the prognosis of untreated or only medically treated cases is grave. They quote Jameson as saying it is impossible to determine the amount of tuberculosis involvement of the various structures macroscopically.

It is the feeling of most men that surgery should not be performed in the face of active pulmonary tuberculosis.

X-ray therapy has warm advocates and the radiation school is divided between radical and conservative radiation.

In this series of patients, operation was elected and post-operative complications were high with an average postoperative hospital stay of 43.4 days.

Comment: We have a feeling that genital tuberculosis is not very common in this section of the country. The basis for this belief is unsound because of two circumstances. (1) Usually pelvic infections are treated conservatively and, as has been stated by these authors, the diagnosis of genital tuberculosis is made by careful microscopic examination of tissue removed at operation. (2) Where operations have been performed it is unfortunately true that careful microscopic examinations have not been routinely done upon infected tubes. Where such examinations have been made tuberculosis has been found to be not uncommon even in this section of the country.

The treatment of genital tuberculosis has never been very satisfactory. Since much success has been attained in pulmonary tuberculosis by very general conservative measures, one is inclined to feel that genital tuberculosis could be satisfactorily treated in the same manner. However, this is not true as evident by a quotation from the article of Jameson in the *American Journal of Obstetrics and Gynecology*, volume 27, page 173 in 1934. "In a fairly large autopsy experience on tuberculosis women, we have failed to find a case of healed pelvic tuberculosis and no reports of such cases have been found in the literature." When one realizes that this is the autopsy experience at Sarnac Lake where many autopsies are done upon tuberculous patients and where the work is very carefully performed it would certainly indicate that extreme conservative measures have been inadequate in the handling of genital tuberculosis.

On the other hand, if conservative surgical measures are attempted "it is absolutely impossible to determine the extent of the disease macroscopically and the end results are most disappointing."

Because of the extent of the disease in the genital tract, surgery, if undertaken, should be radical in type with at least bilateral salpingectomy and hysterectomy. We quote again from the article of Jameson. "An analysis of the 961 cases of radical operations collected from the literature shows a salvage of 72.2 per cent for the entire series and a total mortality of 22.6 per cent." "When one considers the end results obtained by conservative and radical surgery in tuberculosis of the internal genital organs, it is evident that the salvage after the radical procedure is at least 10 per cent greater and the total mortality somewhat less than that following the more conservative operations."

The various methods of treating genital tuberculosis

by X-ray and intraperitoneal oxygen have not, as yet, demonstrated any effective improvement over the surgical approach.

It would, therefore, be reasonable to conclude that genital tuberculosis is best treated, by our present means, with radical surgery. Under this method of treatment we must accept a considerable morbidity and a rather long list of possible complications.

It is likewise true that pelvic operations for genital tuberculosis should not be attempted in the face of active pulmonary tuberculosis.

It is to be hoped that other more conservative and satisfactory means will be found to deal with this disease which does not respond to the careful conservative measures, as does pulmonary tuberculosis.

Wendell Long.

EYE, EAR, NOSE AND THROAT

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"Cirroid Aneurysm of the Orbit." Harold R. Sniderman, M.D., Toronto, Canada. *Archives of Ophthalmology*, December, 1940.

Reid states that these are a result of a free abnormal communication between the arteries and the veins. They are not neoplastic. They have been reported under such titles as arteriovenous aneurysm, racemose aneurysm, pulsating angioma, cirroid aneurysm, etc. Cirroid aneurysm, is the most common title used. The size depends upon the duration of the aneurysm.

Involved vessels pulsate and there is a continuous thrill and bruit. Arterial angiomas have no thrill or bruit and usually do not pulsate. Symptoms depend upon the size, location and duration of the lesion. Orbital aneurysm as a rule does not accompany cardiac enlargement.

The blood supply of the orbit and lids is reviewed. Numerous veins and arteries are present; the anastomosis is widespread. Since this is true, it would seem probable that traumatic aneurysms are more frequent than found in literature.

Two cases are reported. One, a white man, age 33, whose chief complaint was severe headaches since childhood. Ten years previous to this report, there was a gradual increase in the prominence of the right eye with a small lump in the upper lid. Five years later a pulsating lump appeared at the left angle of the jaw. This was a case of multiple, congenital cirroid aneurysms. Ligation of the external carotid and the superior thyroid arteries affected improvement. The second case was that of a boy, age 8, that had injured his left eye eight months previously by running a piece of chicken wire into the lower inner quadrant of the orbit. Varicosities appeared, with a thrill and bruit. Vision remained normal. This was diagnosed as a traumatic cirroid aneurysm. Inspection ten years after ligation of the external carotid artery and occlusion of the internal carotid with an aluminum band and extirpation of some of the vessels of the lid, showed complete healing with normal vision.

"Injury To Tympanic Membrane Caused By Explosions." Report of Six Cases. D. H. Craig, F.R.C.S.E., Otologist to a Military Hospital; Major, R.A.M.C., *Lancet*, 1940, ii, p. 40.

Fraser described injury due to blasting during the last war under the following heads: 1. Rupture of the drumhead (the commonest finding). 2. Hemorrhage in the middle ear. 3. Hemorrhage of the fundus of the internal meatus. 4. Minute hemorrhages among the fibres of the facial nerve and the vestibular division of the auditory nerve, and in the canal of the tensor tympani.

In modern warfare of today it is likely that similar injuries will be on a large scale. Six cases are described of such injuries during the present war. These had not worn protectors of any kind and had not received any treatment previous to entrance to hospital. They arrived at the hospital in from one to nine days after injury. The injury was to the tympanic membrane and most of them developed an acute otitis media. The two cases that were seen early (within twenty-four hours of injury) did not develop an otitis media and healed promptly. Because the hospital was in a rather noisy area, accurate tests for loss of hearing could not be made, but approximate tests did show some loss of hearing. Vertigo was not experienced by any of the injured persons. All the cases were put on sulfanilamide. The ears were treated by mopping away discharges with wool and either blowing in iodine and boric acid (0.75 per cent) or dressing with one-half in. ribbon gauze soaked in acriflavine 1:1000. The object of reporting these cases at this early stage is to stress the importance of wearing some form of protection. Cotton wool impregnated with vaseline, soap or candle grease, is recommended as ear plugs. These plugs are objected to by the troops since they produce decreased hearing. The cases are reported in detail.

"Complications Of Surgical Treatment Of Acute Mastoiditis." G. F. Harkness, M.D., Davenport, Iowa, *Archives of Otolaryngology*, November, 1940.

The major complications of acute mastoiditis are listed as otitic sepsis, thrombophlebitis, petrositis, labyrinthitis and meningitis.

Chemotherapeutic aids are discussed, particularly sulfanilamide, with various reports both pro and con on the subject. These reports are from the leading medical centers of the country, including Fisher of Johns Hopkins, Converse from the Mosher Laboratory at the Massachusetts Eye and Ear Infirmary and Maybaum, Snyder and Coleman from the otolaryngological service of the Mount Sinai Hospital.

The author states: "It is difficult for the individual otologist, striving to do his best for his patients, to reconcile reports from clinical centers that are practically contradictory. It would seem at times that such reports are predicated in the wish being father to the thought."

The author does not think it logical to condemn a therapeutic measure of known value, for use in minor infections that lead to serious complications, when this is of proven value in the serious complications. Its value should be acknowledged and a precaution given as to its possibility of masking symptoms.

The general practitioner and the pediatrician have adopted these drugs, i.e., sulfanilamide etc., with enthusiasm, weighing untoward results against benefits to the greatest number of patients. Hauser's questionnaire showed that 89 per cent of the physicians were using sulfanilamide in otitis media.

Some broad rules of procedure are given, among which are: the earlier the drug is used, the better the results; a patient seen late, with an increasing discharge, is not a good candidate for this therapy; clinical improvement should occur in seventy-two hours; clinical results determine the dosage; with recovery, reduced dosage should continue for ten days.

These drugs do not constitute a cure-all; surgical treatment of the mastoid cavity, the lateral sinus and the petrous pyramid is still indicated; chemotherapy provides a valuable adjunct to already universally accepted procedures, preoperative and postoperative.

The controversial question of the jugular vein, to ligate or not to ligate, is also discussed and different authorities quoted.

Law, of New York, in the discussion of this paper brings out a very pertinent point in regard to the fal-

lacy of the x-ray on a patient with an acute mastoiditis who has been taking sulfanilamide. He suggests stereoscopic films would lessen the error of the reports by the roentgenologist.

"Acute Suppurative Otitis Media: A Statistical Study Of 1514 Cases, Of Which 896 Were Surgical." J. H. Maxwell, M.D., D. H. Brownell, M.D., Ann Arbor, Annals of Otolaryngology, Rhinology and Laryngology, December, 1940.

As might be supposed from the title of this paper, this has required an enormous amount of painstaking effort on the part of the authors. It is a valuable report and so detailed that it does not lead itself well to abstracting. There is a summary of over a page that gives the high points that the investigation disclosed. Following are the author's conclusions:

The time and type of middle ear drainage in cases of acute suppurative otitis media are influential factors in determining the course of the disease.

Spontaneous perforation of the tympanic membrane, which has no tendency to occur earlier or to be more adequate in children than in older individuals, is more apt to occur after three days of otitis media than before and often furnishes an adequate drainage opening.

Early adequate surgical drainage of the tympanum is necessary in cases of acute suppurative otitis media to preclude the deleterious effects of pressure retention of pus within the middle ear.

In non-septic patients with suppurative otitis media, delayed drainage of the tympanum is conducive to the development of mastoiditis, increases the incidence of regional and remote suppurative complications of the disease and raises the mortality rate.

Furthermore, the septic cases of otitis media, in which the stormy course and also many of the complications seem to be uninfluenced by early therapeutic procedures, show a remarkable increase in mortality rate when tympanic drainage is delayed.

Although it is not contended that the pressure factor is the only one of importance in the production of mastoiditis and its complications, its role is one of major significance.

PLASTIC SURGERY

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"Webbed Fingers." Donald W. Maccollum, M.D., F.A.C.S., Boston, Mass. S. G. & O. December 1940.

The author states that over one hundred articles dealing with either webbing of the fingers or of the toes have been written during the past 15 years. Seventy-three cases of congenital webbing between the fingers or between the fingers and thumb are the basis of the author's report.

EMBRYOLOGY—"Bardeen and Lewis in 1901 published such complete studies of the embryology of the extremities that there have been few contributions since then that have surpassed them. It is known that the upper limb buds appear at about the third week of fetal life. The distal portions of each bud soon flatten out to take the shape of flippers or flat, circular fins on short, fat, rounded stalks. The mesodermal elements in the stalk rapidly differentiate into pre-muscle masses and three condensed cell groups that later become the humerus, radius and ulna. Concomitant with these changes in the stalk the mesoderm in the hand plate begins to differentiate into the anlagen of the carpal bones. By this time a set of border vessels has formed at the outer rim of the hand plate. These will later become the superficial and deep volar arches. Peripheral to these

border vessels and supplied by branches from them, five more condensation areas appear. These are to become the fingers and thumb. By the fifth to sixth week of fetal life the condensation areas of the hand plate have grown so much more rapidly than those in the stalk, that short but definite finger-like projections are seen, still united to one another by thin sheets of tissue or webs. If there is an arrest in development at this stage, the child at birth will have a completely fused hand, usually smaller than normal and with deficiencies in development of the carpal bones.

Between the sixth to seventh week of fetal life the finger buds grow more rapidly than any other portion of the appendage. Cartilaginous metacarpals and phalanges appear, soon followed by the ligaments, joints, and intrinsic muscles. Because the growth of the finger buds is so much more rapid than the tissue between them, the webs become less and less marked until finally the only remnants left are the webs that exist on the palmar surface of normal hands. If there is a temporary arrest in development during the seventh or eighth week of fetal life, this disproportionate rate of growth will not occur. It is then quite possible for two or more fingers to be momentarily retarded in growth and to remain united by their webs. Later in fetal life, growth both of the finger buds and of the webs between them takes place at an even rate so that at birth, even though the fingers may have attained proper length, the webs will still be present and of the same length as the fingers.

The growth of the limb stalk is much slower than that of the hand so that in early fetal life an almost completely formed hand protrudes from a very much foreshortened arm. Numerous examples of arrests in development at this stage have been seen when a fairly normal hand projects either directly from the shoulder girdle or from a very short flail arm composed of rudimentary portions of the humerus, radius or ulna."

OCCURRENCE—This condition is said to occur once in every 2,000 to once in every 2,500 births. Of all the congenital anomalies, this particular one seems to demonstrate the inheritance factor more frequently than many others.

Optimum time of operation: The author believes that the optimum time for surgery in these cases falls between the sixth and seventh year of age.

He states that because of the lack of co-operation of small children it is seldom ever thought justifiable to operate under two years of age.

The author favors an operation whereby a flap is raised from the dorsum and one from the ventral side of the hand, then brought together to form the natural web of the fingers. He describes the splinting and the post-operative care of such cases. He uses the splint for a period of six months. This splinting is carried out over the time during which razor grafts will contract if not left continually stretched. Massage and exercise is given in a definite fashion.

Conclusions: This article is clearly written and illustrated by good photographs. He shows the incisions, the flaps, and the splinting employed in these cases. In my experience I have used the dorsal flap to an advantage; but have never used the ventral flap. Also I believe that the period of splinting in the author's experience is valuable for the reason that I have in some cases removed the splints too early. Intelligent post-operative massage and physiotherapy aid greatly in the final outcome.

"The Transplantation of Skin and Subcutaneous Tissue to the Hand." By Sumner L. Koch, M.D., F.A.C.S., Chicago, S. G. & O., Page 1, Vol. 74, January, 1941.

The author pays tribute to the pioneers in this particular branch of work. The historical facts point out

that this type of work was done thousands of years ago. Reconstruction of the nose was done and apparently very good results obtained.

The author lists the principal contributors to the techniques of transplantation of skin, especially the technique of free grafts as carried out by Reverdin, Lawson, Ollier, Thiersch, Wolfe and Krause.

It is pointed out that more recently such men as Blair and Davis have not only popularized this branch of surgery but have contributed definitely to the technical aspect of these procedures.

It is interesting to note that the use of the free grafts was advocated as early as 1893 and its advantages pointed out. The disadvantages of the pedicle graft were stressed.

Conclusions: This is a very interesting article written by one of the masters of surgery today. Anyone interested in this type of work should read the text of this article in full.

"Failures in Rhinoplastic Surgery, Causes and Prevention." Joseph Safian, M.D., New York, N. Y., Attending Plastic Surgeon, Beth David Hospital. Amer. Journal of Surgery, Nov., 1940.

The author points out that the School of Rhinoplastic Surgery founded by Professor Jacques Joseph disappeared in great measure with the advent of the Third Reich when he became an exile and died shortly thereafter. The author also points out that with a nasal disfigurement there exists often a profound psychological factor when the disfigurement is properly or improperly corrected. He states that plastic surgery and rhinoplasty in particular presents a dual problem.

1. The technique must be mastered as in all surgical procedure.

2. Equal or even more important is the art of creating "form" which has definite esthetic value.

Failures in this branch of surgery indicate definitely that the work was done by a man lacking in one or the other essential qualities. Some of the results indicate that the man lacks both qualities.

The author lists the failures in nasal plastics as follows: Quote:

1. The Upper or Bony Third of the Nose. In this category the surgeon is usually concerned with the removal of a nasal hump, or the lowering of the profile line and the narrowing of the nasal bridge. The errors commonly committed which lead to poor results are as follows: (a) The removal of bony structure without a compensative reconstruction of the rest of the nose, resulting in a bird-beak effect; (b) cutting through the right and left side of the nasal hump at unequal levels, producing a flattening of one side or the other; (c) Failure to cut the dorsal edge of the septum down to the same level as the lateral walls, producing a "razor edge" nasal dorsum instead of one with a normal width; (d) Failure to narrow the nasal bridge, resulting in a flat dorsal plateau with retraction of the skin into the hiatus created by the removal of the hump; failure to produce a complete fracture of the lateral walls, tending to widen the nasal bridge; (f) deviation of the bony septum, preventing a proper "fracture" of the affected side, resulting in a scoliosis; (a deviation of the bony septum must always be corrected prior to any attempted narrowing of the nasal bridge); cutting through the frontal processes of the superior maxillae at an improper lever, producing a step-like thickening at the base of the nose.

2. The Middle Third of the Nose: This consists of the lateral cartilages and the septum. A nasal hump or an excessive profile elevation is rarely confined to the bony structure alone. The cartilages of the middle third of the nose are usually an integral part of the nasal hump and these structures must therefore be

brought down to the newly created level of the bony part.

Errors are: (a) Failure to level the septum to the required profile line leaving a cartilaginous hump or a dorsal convexity; (b) the lateral cartilages must be trimmed in order to re-establish a normal relationship between the lateral and alar cartilages. If this trimming is not carried out an excessive thickening of the nasal tip results, with an obliteration of the nasal vestibule. It is important to bear these points in mind in order to avoid an unsightly secondary disfigurement after an otherwise properly performed nasal correction.

3. The Lower Third of the Nose: It will be obvious from the foregoing that great caution is necessary in corrections involving the lower third of the nose. It is in this area that the largest number of surgical disfigurements occur. The cartilages comprising the lower third of the nose have, aside from other functions, one definitely esthetic. The cartilages may be too large or disproportionate. Faulty technique or disregard of the anatomic functions of the cartilages will always result in a distinct surgical disfigurement. We see more patients with surgical disfigurements or mutilations of the nasal tip, than with any other type of secondary rhinoplastic deformity. The end result in the correction of these mutilations depends upon the degree of destruction of vital nasal tissues. When the disfigurement is slight, a considerable measure of improvement can be brought about, while the more flagrantly distorted noses are almost beyond repair.

Common errors: (a) In shortening the nose, the watchword should be conservatism. The nose should be shortened to an extent somewhat less than the length of the chin line. The usual amount of post-operative droop is about 2mm. When it exceeds this, it is preferable to carry out a secondary shortening, following which there is usually no postoperative dropping of the nasal tip. (b) The narrowing of the nasal tip should be carried out with the objective in mind that sufficient alar cartilage and mucosa must remain to afford proper support for the overlying skin. The commonly observed pinched-tip effect will thus be avoided. The alar cartilages should never be removed completely.

(c) A rather common surgical disfigurement is a retracted columella. This effect is produced by the removal of the posterior surface of the columella while shortening the nose. Such a deformity is not easily remedied because a supporting structure has been lost. It seems to me that the error is made with the assumption that a "hanging septum" can be corrected by removing the posterior half or more of the columella. As a matter of fact the "hanging septum" is merely an excessive convexity of the anterior edges of the columellar cartilages. When this condition is present it calls for specific correction, the technique for which is described in my book* as well as in Professor Joseph's "Die Rhinoplastic."

"One step in a general rhinoplastic correction which requires careful consideration is the reduction of the size of the nostrils by the excision of a triangular section, anteriorly or posteriorly. During the operation one may get the impression that the nostrils appear larger than before. This is frequently due to the novocaine infiltration and subsides after the solution is completely absorbed. I have observed many instances where the base of the nose, in a previous operation was unnecessarily narrowed, resulting in a typical adenoidal facies. Unless one is certain that this step is indicated it is best to defer it until all swelling has subsided. It will then rarely be found necessary to reduce the size of the nostrils. As a rule, the narrowing of the nasal tip, according to the technique described in my book (Safian), will diminish the size of the nostrils sufficiently to make the second operation unnecessary.

*Safian, J. Corrective Rhinoplastic Surgery. New York, 1935. The American Journal of Surgery, Inc.

"Another alar operation which is far too frequently performed is what is commonly called the Weir operation. It consists in the excision of a crescentic section of the alae at their attachments. This is indicated only in persons with negroid nostrils. In all other instances which I have observed, this operation flattens the nostrils and obliterates the nasolabial fold. It constitutes a surgical deformity which, as far as I am aware, has not been successfully corrected by a secondary operation."

Comment: The author is to be congratulated on setting forth definitely the principal causes of failures in this type of surgery. I have seen some men who make a standard type of nose out of every case they do. This is as the author comments, a surgical uuse and lacks form. It is quite noticeable, too, that some men have no esthetic seuse who are doing this type of surgery. Personally, it seems to me that each case must be studied carefully beforehand and a picture projected in the mind, especially as to the type of nose desired. This must be a nose that fits the patient's face. I have personally had more difficulty with the nasal tip than with any other component of the nose.

This article is particularly well illustrated with pictures and photographs.

CARDIOLOGY

Edited by F. Redding Hood, M. D.
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"The Relation Between the Heart and the Kidneys—Modern Concepts of Cardiovascular Disease." By Louis Leiter, M.D., Ph.D., Chicago, Ill., June, 1940.

1. Physiological Considerations.

It must be of some significance that in man and in the larger mammals in general the weight of the heart equals or exceeds the combined weight of the kidneys. This even holds for the whale. It is tempting to relate this fact to the more striking fact that some 1300 cc. of blood, more than one-fourth of the basal cardiac output, flows through the kidneys of the average adult male per minute. It is no wonder, therefore, that under ordinary conditions it is difficult to produce any remarkable increase in renal blood flow, although the reverse process occurs from a variety of causes.

The reason for the enormous renal blood flow is, presumably, the high degree of development of the glomerular kidney, which was originally evolved in marine forms when the ocean was not yet salty. The vicissitudes of the glomeruli in the kidneys of salt water fish furnish a fascinating chapter in comparative morphology and physiology. Agglomerular kidneys developed in some specimens. Among the land-living vertebrates, birds and mammals acquired the loop of Henle for the preservation of body water and the production of a urine more concentrated than the blood in many respects.

The added element of high blood pressure in the glomerularized kidney has undoubtedly affected the work and size of the heart to an important degree. How the kidney, more specifically the glomeruli, keeps the central pump or its nervous regulators informed of the requirement of the blood flow and pressure for the kidney is unknown. The remarkable response of the general arterial pressure to partial constriction of the renal arteries, as in the Goldblatt animal, necessitates a mechanism within the kidneys for the production of a pressor hormone. Does the kidney normally play a role in the regulation of arterial pressure? The recent histological studies of Goormaghtigh seem to indicate the existence of specialized secretory cells in the wall of the afferent glomerular arteriole which multiply and presumably hyperfunction in the Goldblatt kidney.

Apart from these interrelations between the kidneys and the heart in which the kidneys are dependent upon the work and energy of the heart, there is the important opposite situation in which the circulation must have the cooperation of the kidneys. I am referring here to the role of the healthy kidney in maintaining a normal plasma volume and a normal colloid osmotic balance between the vascular and extravascular or interstitial fluids. Sudden or prolonged rises in circulation plasma volume after the rapid ingestion or injection of fluids are prevented by the diuretic response of the kidneys. Similarly, decrease in plasma volume is rapidly reflected in oliguria. Of equal importance is the practical non-permeability of the normal glomerular membrane to plasma protein. Were it not for this, we would all have nephrotic syndrome. However, even the glomerular membrane is dependent upon an adequate, properly oxygenated, renal arterial blood flow for normal resistance to the escape of plasma protein.

The role of the kidneys in maintaining relative and optimal constancy of the internal fluid environment by the excretion of the organic and inorganic ashes of the internal metabolic fire and by the reabsorption of glucose, water, necessary electrolytes and vitamins require no elaboration. Suffice it to say that tubular function of reabsorption is beautifully adjusted to the needs of the body as a whole, and probably, to the needs of the most active muscle in the whole body, the heart.

2. Pathological Physiology.

This will be considered from the standpoint of (a) primary disease or dysfunction of the heart and (b) primary disease or dysfunction of the kidneys.

(a) Cardiac disease affects the kidneys largely by way of central circulation failure or weakness of the pump. Theoretically, the result may be decreased by renal arterial blood flow, venous congestion, or both. The effects of passive congestion on the kidneys are recognized, but the demonstration of decreased renal blood flow in heart failure is not so obvious. Judging from the urea clearance there is often little change in renal function in spite of oliguria and other signs of renal circulation disturbance. More work must be carried out on patients using the newer methods designed to measure total renal blood flow and active tubular mass. In general heart failure is of relatively little significance insofar as renal function is concerned unless it is superimposed upon pre-existing diffuse renal disease, making a combination dangerous to renal function and often to the life of the individual. Finally, congestive heart failure may cause sufficient albuminuria to result in depletion of plasma proteins and the vicious synergism of nephrotic and cardiac edema.

Another well known effect of heart disease upon the kidneys consists of the partly mechanical, partly toxic focal alterations due to multiple embolization or thrombosis of the terminal renal vessels in various types of endocarditis. Also, bacteremia may lead to the development of diffuse glomerulonephritis in this group.

(b) Kidney disease may react upon the heart in several different ways: In acute nephritis (1) by causing oliguria or anuria, secondary increase in the blood volume and at least temporary increase in the load upon the heart. On the whole, this is an unimportant effect unless the fluid intake is excessive. More serious are (2) the mechanical embarrassment of the heart by acute pericardial effusion, hydrothorax and ascites and (3) the increased work of the heart resulting from sudden rise in arterial pressure, especially when the latter is part of attacks of acute hypertensive encephalopathy with convulsions. Left ventricular failure may occur rapidly under these conditions and produce fatal pulmonary edema.

In chronic renal disease, the chief damage to the heart results from several factors: (1) Persistent hypertension, due to a general increase in the peripheral resistance, leads to cardiac hypertrophy, eventual dilation and failure. (2) Anemia in chronic renal insufficiency cannot be an indifferent item to the heart, either from the standpoint of cardiac work or the direct effect of deficient blood upon the myocardium. The resistance of this type of anemia to treatment makes the cardiac problems all the more serious. (3) Renal insufficiency in the preuremic stage, at a level of one-third or less of the average normal renal function, seems to have a deleterious effect upon the heart, particularly when superimposed, as is often the case, on hypertension and anemia. (4) Uremic pericarditis is chiefly of pathological interest, as it seems to produce no special effects upon the function of the heart unless considerable pericardial effusion occurs.

3. Clinical Applications of Cardiorenal Interrelations.

Several clinical deductions may be drawn: (1) The common role of the heart and the kidneys in relation to the causation and removal of edema makes it imperative that we distinguish accurately between cardiac and renal aspects of edema. The success of powerful diuretics depends upon their excretion by the kidneys and hence of the level of renal function. It is, therefore, unwise to use these agents unless kidney function has been estimated. However, in case of doubt as to the cause of the edema, it is always safe to digitalize the patient, since digitalis does not seem to depend upon good renal function for its excretion. The edema in the hypertensive forms of chronic renal disease is likely to be cardiac in origin. The edema of non-hypertensive renal disease is rarely cardiac. Albuminuric or nutritional hypoproteinemia should be thought of in patients with persistent massive cardiac edema who have little dyspnea or venous congestion after adequate digitalization and restriction of salt and fluids.

(2) Oliguria may be either cardiac or renal in origin but, with very rare exceptions, anuria is renal. In the attempt to restore urinary flow, due consideration must be given to the tolerance of the heart for intravenous fluids, in particular for strongly hypertonic solutions. Anuric kidneys do not benefit from cardiac failure induced by overhydration.

(3) Hypertension is perhaps more dangerous in acute than in chronic renal disease. Left ventricular weakness or failure is commonly overlooked in acute nephritis. Instead of the uncontrolled use of diuretics of hypertonic solutions in these cases, immediate relief of the left heart by means of venesection, oxygen, morphine and digitalis is indicated. The symptoms and signs of right heart or congestive failure should perhaps be eliminated from our text books and lectures until a generation of physicians has grown up fully aware of the symptoms and signs of early ventricular failure.

In chronic hypertensive renal disease major attention must be centered on maintenance of good cardiac function, rather than on the more or less ceremonial attempts at dietary treatment of the renal condition. The lower the renal function, the more the patient's life depends on the efficiency of his heart. The common practice of "flushing out" the kidneys with large amounts of fluid may lead to embarrassment of the circulation as a major consequence, and to nocturia and disturbed sleep as a minor irritation. A daily urine volume of 1500-2000 cc. is sufficient for all degrees of renal insufficiency, even on a normal diet. The earliest signs of left ventricular weakness should be the signal for digitalization and other measures of cardiac therapy. Every patient with essential hypertension should be regarded as a candidate for later heart disease.

(4) Anemia in the later stages of renal disease is caused, presumably by a toxic depression of the bone marrow and ultimately requires blood transfusion. Hypertension and anemia are a bad combination for the heart, even in the absence of renal insufficiency. Unusual care must be exercised in carrying out blood

transfusions in patients with low renal function to prevent the fatal effect of incompatible blood and the common danger of pulmonary congestion or cardiac failure, due to the excessive increase in blood volume in patients who already have some circulatory insufficiency. Only small transfusions are safe and with sufficient interval in between transfusions to allow for hemodynamic adjustments. One should be satisfied with a hemoglobin level of 75 or 80 per cent.

4. Summary .

The heart and the kidneys stand in intimate physiological relationship because of the peculiar demands of renal function in the mammalian kidney for a large renal flow as well as for high glomerular capillary blood pressure. In turn, the kidneys help to maintain a constant plasma composition so necessary in the nutrition of tissues and in the dynamics of fluid exchange between the vascular and extravascular mechanism for the regulation of blood pressure when its circulation is restricted; perhaps, also under normal circumstances. The implications of such a mechanism on the function of the heart are interesting to consider.

In disease of the heart, the kidney is involved usually by way of passive congestion without serious consequence ordinarily. However, in circulation shock severe renal insufficiency may develop, rarely in previously normal kidneys. A nephrotic edema may be superimposed on original cardiac edema because of excessive proteinuria of undernutrition. The mechanical effect of emboli on the kidneys is obvious and chiefly of diagnostic importance. In general, the fate of the primarily cardiac patient is not seriously dependent upon his kidneys, except in old age when renal arteriosclerotic atrophy supervenes.

However, in primary disease of the kidneys, the status of the heart is often decisive. In acute nephritis, left ventricular failure and pulmonary edema may rapidly terminate the disease fatally. In chronic renal disease, whenever hypertension occurs, potential and later actual cardiac insufficiency becomes a primary concern in the patient's management. Failure of the heart often precipitates severe renal insufficiency in these cases. The harmful effects of anemia and of uremia upon the heart have been considered.

A better understanding of the interrelations between the kidneys and the heart should be of value in establishing a more rational therapy.

INTERNAL MEDICINE

Edited by Hugh Jeter, M. D., F. A. C. P., A. S. C. P.
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"The Preparation and Experimental Use of Dried Blood Plasma." S. B. Harper, H. E. Essex and A. E. Osterberg. Proceedings of the Staff Meetings of the Mayo Clinic, Vol. 15, No. 44, October 30, 1940.

In this, the authors have reported a method of desiccating or drying blood plasma, which appears extremely simple and in which no expensive mechanical device is made. The serum is dropped into a flask by a dropping funnel, a partial vacuum is obtained by a pump and the flask and fluid subjected to a constant water bath temperature of 45 degrees C. The water is thereby evaporated.

This and the above method both seem practical and in as much as the present demands for plasma are such as necessitate desiccated plasma, it seems urgent that we avail ourselves of some such method. It is especially fitting that some method of preserving blood plasma be used in connection with the blood bank. I believe we may anticipate that there will be many different types of cases wherein plasma can be satisfac-

torily used and it seems not unlikely that the War will necessitate stored or desiccated plasma such as may be kept in a comparatively small space and shipped conveniently.

"The Coexistence of Brucella Infection and Hodgkin's Disease." N. B. Wise, M.D., and Mary A. Poston, M.A., Durham, N. C., *Journal of the American Medical Association*, Volume 115, No. 23, December 7, 1940.

This is another report on the studies of lymph glands from cases of Hodgkin's disease, in which cultures were made. In 14 consecutive cases of Hodgkin's disease, Brucella infection was demonstrated.

The authors do not contend that this establishes the organism as a specific etiological agent.

Comment: Recently at the Southern Medical Association several others from other localities reported that they failed to find the organism, using the same type of bacteriological technic.

In connection with the establishment of Brucella infection as an etiological agent, the following questions come to my mind:

1. Is there any infectious disease which is consistently 100 per cent, or practically 100 per cent fatal?
2. Has there been any definitely proven case of Hodgkin's disease in which a definite cure could be established?

"Use of Cellophane Cylinders for Desiccating Blood Plasma." F. W. Hartman, M.D., With the Assistance of F. W. Hartman, Jr., Detroit. *Journal of the American Medical Association*, Volume 115, No. 23, December 7, 1940.

A comparatively simple method for desiccating blood plasma is herein reported. Dr. Hartman has contributed another method making use of a device in which rotating cylinders made of cellophane are used and by this method he has been able to, in an economical and practical way, desiccate plasma to a satisfactory degree.

The diagram shown explains fully the principle.

UROLOGY

Edited by D. W. Branham, M. D.
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"Recent Developments In The Surgical Management of the Obstructing Prostate." Clinical Lecture New York Session June 10, 1940. Joseph Francis McCarthy, M.D., *American Medical Journal*, November 1940.

Dr. McCarthy presents in this article personal observations relative to the modern surgical treatment of the obstructing prostate.

His technique for performing suprapubic cystotomy is the utilization of a transverse skin incision and also a transverse incision of the bladder rather than the more orthodox longitudinal incision of these structures. Following enucleation of the prostate he controls hemorrhage by fulguration of the bleeding vessels in the prostatic bed with an electrotome. The latter procedure often obviates the use of the bag or pack for control of hemorrhage.

In the perineal route for the removal of the hypertrophied prostate he emphasizes the necessity of intraurethral enucleation through an incision in the urethra and deprecates the elaborate dissection of the ischiorectal fossa. He counsels the use of a finger in the rectum to guide the dissection through the perineal structures.

So far as prostatic resection is concerned he is a firm advocate of this type of treatment in selected

cases but warns that a well trained personnel is a necessity.

In a discussion of collateral topics, blood transfusion is given a brief consideration. Indirect method of transfusion has been found to be as satisfactory as the direct method.

Regarding the use of sulfonamide compounds he warns against excessive dosage, not over 20 or 30 grains daily; also careful watching of the blood picture is an essential in this type of therapy.

Spinal anesthesia is generally used with not more than 50 mg. procaine as the anesthetizing agent. Lately he has been experimenting with local anesthesia for prostate resection. By means of an especially devised needle he infiltrates the prostate through the resectoscope following which he has been able to perform resection satisfactorily with what he feels a larger margin of safety.

In order to determine the presence of early malignancy he recommends the serial section of many specimens of the resected prostate and if an island of malignancy is found through this method he proceeds with radical removal of the prostate. In frank malignancy of the prostate, fractional doses of x-ray have been found effective in preventing the secondary bleeding.

"Use of Sulfathiazole Before and After Urologic Operations To Prevent Or Combat Infection." Hugh H. Young, Justina H. Hill and James H. Semans, John Hopkins Hospital, Baltimore. *Journal of Urology*, November, 1940.

Owing to the difficulty of sterilizing the genitalia and adjacent regions, it is often impossible to get per primam healing throughout lengthy sutured wounds.

Because sulfathiazole was particularly effective against pus-forming cocci, Dr. Young administered the drug before and after operation in a series of urologic cases and compared the results obtained with his previous experience. He summarizes his results in the following paragraph.

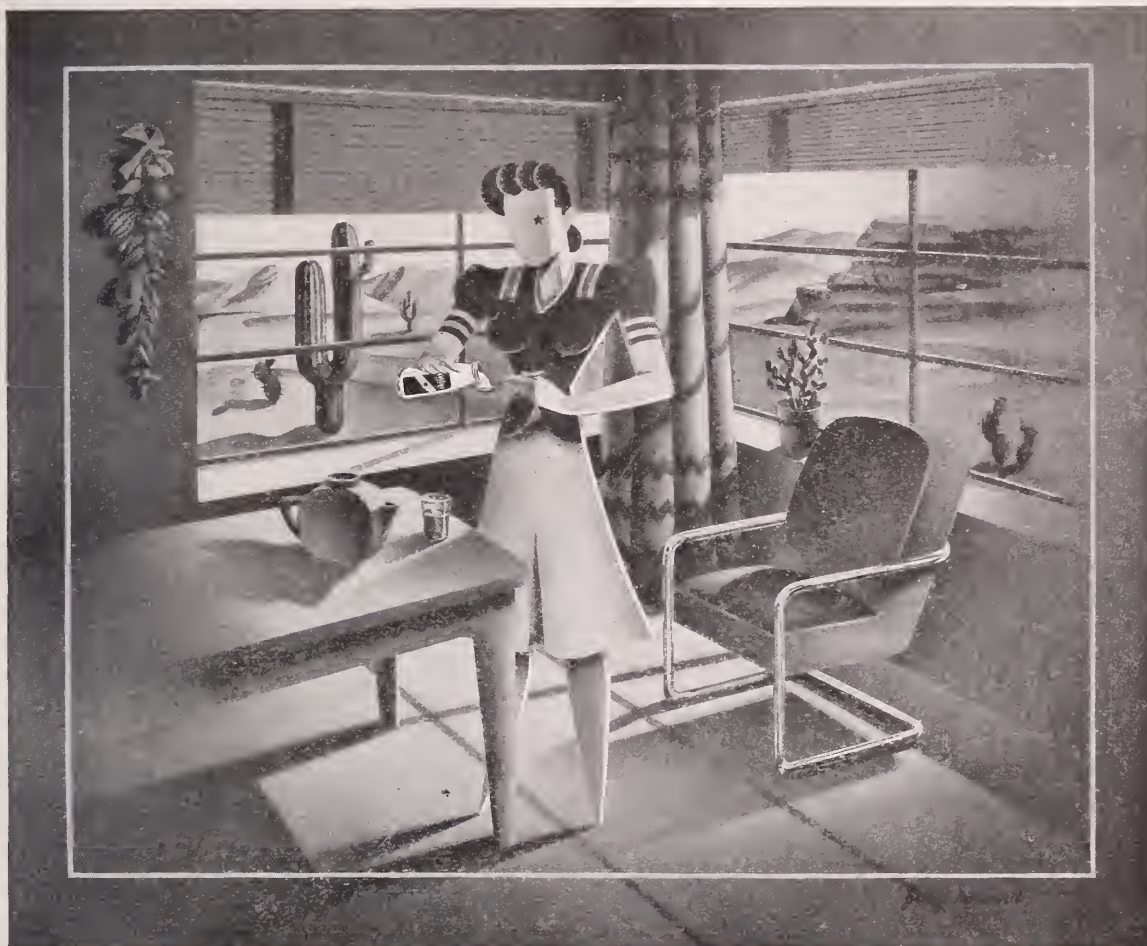
"Struck with the frequency of stitch hole infections and minor breakdowns, particularly in plastic surgery of the penis, we decided to try to prevent these by administering sulfathiazole before operation and continuing the drug afterward for various periods. Although some of these patients have been very young children, no serious reactions have been encountered. It has generally been possible to give the drug without interruption as long as it seemed desirable. The results obtained in the twelve cases that have been given in detail demonstrate conclusively that, by the use of sulfathiazole, it is possible to obtain much better healing than heretofore in a large proportion of the cases. In addition, it has been shown that even where there has been a small breakdown, under continued sulfathiazole therapy, healing has sometimes taken place even without the formation of a fistula. In some cases we have placed a silver clip to approximate the edges of the breakdown in the skin. Never in our previous experience has this been possible."

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COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Adair.....			
Alfalfa.....	H. E. Houston, Cherokee	L. T. Lancaster, Cherokee	Last Tues. Each 2nd Mo.
Atoka-Coal.....	J. B. Clark, Coalgate	J. S. Fulton, Atoka	
Beckham.....	H. K. Speed, Sayre	T. W. Pratt, Cheyenne	Second Tues. eve.
Blaine.....	L. R. Kirby, Okeene	W. F. Griffin, Watonga	
Bryan.....	J. T. Colwick, Durant	W. K. Haynie, Durant	Second Tues. eve.
Caddo.....	E. W. Hawkins, Carnegie	G. E. Haslem, Anadarko	
Canadian.....	P. F. Herod, El Reno	A. L. Johnson, El Reno	Subject to call
Carter.....	Fred Perry, Healdton	James Smith, Ardmore	
Cherokee.....			
Choctaw.....	C. H. Hale, Boswell	Floyd L. Waters, Hugo	
Cleveland.....	D. G. Willard, Norman	Moorman Prosser, Norman	Thursday nights
Comanche.....			
Cotton.....	Mollie Seism, Walters	R. M. Van Matre, Walters	Third Friday
Craig.....	Powell L. Hays, Vinita	Paul G. Sanger, Vinita	
Creek.....	P. K. Lewis, Sapulpa	Wm. P. Longmire, Jr., Sapulpa	
Custer.....	C. Doler, Clinton	W. C. Tisdal, Clinton	Third Tuesday
Garfield.....	V. R. Hamble, Enid	John R. Walker, Enid	4th Thursday
Garvin.....	Robert M. Alexander, Paoli	John R. Callaway, Pauls Valley	Wed. before 3rd Thur.
Grady.....	Turner Bynum, Chickasha	Roy E. Emanuel, Chickasha	3rd Thursday
Grant.....	I. V. Hardy, Medford	E. E. Lawson, Medford	
Greer.....			
Harmon.....	Samuel W. Hopkins, Hollis	Wm. M. Yeargan	1st Wednesday
Hughes.....	William L. Taylor, Holdenville	Imogene Mayfield, Holdenville	First Friday
Jackson.....	Raymond H. Fox, Altus	Willard D. Holt, Altus	Last Monday
Jefferson.....	D. B. Collins, Waurika	J. I. Hollingsworth, Waurika	
Kay.....	J. G. Gharmley, Blackwell	L. I. Wright, Blackwell	3rd Thursday
Kingfisher.....			
Kiowa.....	J. M. Bonham, Hobart	J. L. Adams, Hobart	
Le Flore.....			
Lincoln.....			
Logan.....	Wm. C. Miller, Guthrie	C. W. Robertson, Chandler	First Wednesday
Marshall.....		J. L. LeHew, Jr., Guthrie	Last Tuesday evening
Mayes.....	S. C. Rutherford, Locust	E. H. Werling, Pryor	
McClain.....			
McCurtain.....	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow	4th Tues. eve.
McIntosh.....	D. E. Little, Eufaula	W. A. Tolleson, Eufaula	2nd Tuesday
Murray.....			
Muskogee.....	A. N. Earnest, Muskogee	S. D. Neely, Muskogee	1st & 3rd Monday
Noble.....	J. W. Francis, Perry	C. H. Cook, Perry	
Okfuskee.....	J. M. Pemberton, Okemah	L. J. Spickard, Okemah	2nd Monday
Oklahoma.....	George H. Garrison, Okla. City	W. W. Rucks, Jr., Okla. City	4th Tuesday
Okmulgee.....	I. W. Bollinger, Henryetta	M. D. Carnell, Okmulgee	2nd Monday
Osage.....	T. A. Ragan, Fairfax	George Hemphill, Pawhuska	2nd Monday
Ottawa.....	J. W. Craig, Miami	L. P. Hetherington, Miami	Last Thursday
Pawnee.....			
Payne.....	A. B. Smith, Stillwater	Haskell Smith, Stillwater	3rd Thursday
Pittsburg.....	W. H. Kaciser, McAlester	Edw. D. Greenberger, McAlester	3rd Friday
Pontotoc.....	E. M. Gullatt, Ada	R. E. Cowling, Ada	1st Wednesday
Pottawatomie.....	R. M. Anderson, Shawnee	Cinton Gallaher, Shawnee	1st & 3rd Saturday
Pushmataha.....	E. S. Patterson, Antlers	D. W. Connally, Antlers	
Rogers.....	W. A. Howard, Chelsea	P. S. Anderson, Claremore	1st Monday
Seminole.....			
Stephens.....	E. C. Lindley, Duncan	John K. Coker, Duncan	
Texas.....	L. G. Blackmer, Hooker	Johnny A. Blue, Guymon	Subject to call
Tillman.....	T. F. Spurgeon, Frederick	O. G. Bacon, Frederick	
Tulsa.....	J. C. Brogden, Tulsa	Roy L. Smith, Tulsa	2nd Thursday
Wagoner.....	H. K. Riddle, Coweta	S. R. Bates, Wagoner	
Washington-Nowata.....	S. A. Lang, Nowata	J. V. Athey, Bartlesville	2nd Wednesday
Washita.....			
Woods.....	C. A. Royer, Alva	O. E. Templin, Alva	Last Wednesday
Woodward.....	Joe L. Duer, Woodward	C. W. Tedrowe, Woodward	

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Skin Manifestations in Diabetes Mellitus*

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It has been estimated that approximately twenty-five per cent of diabetic patients give a history of some type of skin disease. Although the vast majority of skin complications are seen by the internist, general practitioner or surgeon, the dermatologist sees a sufficient number, particularly of the unusual lesions, to warrant some discussion. Skin manifestations may be classified into three main groups: (1) Those resulting from a disturbance of lipid metabolism; (2) inflammatory lesions, and (3) miscellaneous.

I. DISTURBANCE OF LIPOID METABOLISM

A. Xanthoma diabeticorum is most commonly seen in patients with poorly controlled diabetes of long duration. Frequently the lesions are overlooked unless especially searched for, but those with more prominent and extensive involvements are quite commonly found in dermatological clinics. The lesions apparently have a predilection for the buttocks, elbows and knees. Occupational trauma has been mentioned as a factor in these locations. They are solid, oval shaped, reddened, scaly papules one-half to 1 mm. in diameter and are often associated with telangiectasia. The papules may be tender and the sensation of itching is not uncommon. Usually they develop suddenly and occur in diagonal patches.

The treatment depends entirely upon the control of the diabetes by diet and insulin.

After the blood lipoids have been maintained at a normal level the xanthomas usually disappear leaving no trace of their presence. It must be remembered that it may take months or even years for that result to be obtained.

L. E.—white, 36 years old—had had very inadequately controlled diabetes for a number of years, the diet had not been carefully adhered to and insulin had been taken very irregularly. A few years ago he noticed multiple, discrete, firm, small, yellow papules about the neck, arms and trunk. Within the past few months these had increased in number and upon first examination a fasting blood sugar was 242 mg. per cent and cholesterol 750 mg. per cent. One of the nodules from the arm was removed for microscopic examination. Dr. Fred Weidman² kindly reviewed the sections and made the following report:

"The epiderm may be regarded as normal except that the interpapillary pegs are largely absent. This suggests the effects of pressure atrophy induced by the lesion in the corium. In the corium a superficial nodule appears which is not more than 2 or 3 mm. in diameter. In it there is a hyperplasia of spindle cells and lymphocytes together with large numbers of xanthoma cells. The collagen bundles within the nodules are widely dissected by the infiltrate.

"*Sudan iii Staining*: In frozen sections stained with Sudan iii great quantities of red staining, more or less globular material appear. This fatty substance appears mostly

*Read before the Section on Dermatology and Radiology, Annual Session, Oklahoma State Medical Association, May 7, 1940, in Tulsa.

within the nodule but at the same time great numbers of red globules also appear in the basal cells of the epiderm. This phenomenon has been ascribed by Pautrier to transportation of fat below through the agency of histiocytes. The xanthoma cells are so heavily crowded with the red material that details of the cytoplasm cannot be made out. The large numbers of fatty globules which appear extracellularly are doubtless the result of extrusion from the xanthoma cells. It must be conceded, however, that the other explanation is to be considered; namely, that the fat originally lay in the lymphatics but has been phagocytized by the histiocytes. The presence of marked congestion of blood vessels and of some small areas of hemorrhage between the sweat coils might suggest an origin for the lipoid within erythrocytes, but against this possibility is the fact that the fatty material does not appear in connection with them. The fatty substance appears to be exclusively neutral fat. The writer could not discover cholesterol plates or the needle-like crystals of fatty acids."

B. *Necrobiosis Lipiosis Diabeticorum.*

For many years xanthoma diabeticorum was the only recognized disturbance of lipid metabolism in diabetics. In 1928 Oppenheim³ recognized a disease which he termed "dermatitis atrophicans lipoides diabetica." Urbach⁴ later discovered the same condition to which he gave the name now commonly used, namely, "necrobiosis lipoidica diabeticorum." Since then a number of additional cases have been reported, including those of Zeisler and Caro⁵, and Michelson and Laymon⁶. This disease is characterized by the early appearance of red papules 1 to 4 mm. in diameter, sharply bordered and distinctly elevated. Sometimes a slight superficial scale is noticed on the lesion. As the lesions develop they become oval, round or irregular plaques with well defined borders having a smooth glistening surface and described by Michelson as "covered with a tight layer of cellophane." There is a definite likeness to the appearance of hypertrophic lichen planus. Oppenheim has reported definite ring-shaped lesions. In all the recorded cases the color has been uniform. There is a peculiar yellowish-pink tint on the surface of the lesion which shades into a violaceous color at the periphery. Oppenheim has described a third stage which is characterized by definite delling of the surface of the lesion and a central grayish-white scale. The disease can occur at any age from ten to seventy-two years inclusive. The beginning is insidious and the patient does not complain of any subjective symptoms. The lesions are most commonly found on the lower extremities, especially about the ankles. Some cases have

been reported in which they have been present on the palms, face and soles.

Numerous theories have been presented as to the cause of this condition. Urbach believed that toxins which circulate in the blood stream of diabetics cause severe disturbances of the vessels in the corium, followed by a necrobiosis of the connective tissue and a secondary absorption of the lipoids of the blood. Oppenheim felt that the lipoids present in the corium were due to a fatty degeneration of the tissues. Michelson and Laymon compared the pathology to that found at the edge of diabetic gangrene and found them to be similar. They believed that this condition is a mild diabetic gangrene.

J. O., an obese man (white) 58 years old was first seen in July, 1937, because of a severe laryngitis which has been suspected of being due to a malignancy but which proved to be inflammatory. At that time a few erythematous discrete papules about 2 mm. in diameter were noted about the ankles, which had been present about one year. There was a slight scaliness on the surface of several lesions and a diagnosis was made of a hypertrophic type of lichen planus. Unscreened x-rays, 100 roentgen units, were given. Urinalysis or other laboratory investigation was not made.

The patient was not seen again until one year later at which time he reported because of a persistence, and increase in the size, of the lesions of the leg. Additional history revealed that the patient was a chronic alcoholic, drinking about a pint and a half of whisky daily. His weight for the past few years had been about 230 pounds. In 1935 he had been hospitalized because of an acute attack of gallstone colic but an operation was not performed. In May, 1938, after having noted polyuria and nocturia for about ten days, he consulted a physician who found glycosuria. For the past month he had followed a roughly estimated diet eliminating excessive sugar. There was no family history of diabetes. Examination revealed a height of 68 inches and weight of 236 pounds. Physical findings other than those with reference to the skin were essentially unimportant. Over the dorsum of the feet, about the ankles and over the abdomen there were scattered lesions varying from 2 to 6 mm. in diameter. They were oval in shape with well defined borders somewhat violaceous in color. The surface was covered with densely adherent scales.

Histologic examination of tissues removed from one of the lesions showed slightly hyperkeratotic scales; otherwise the epidermis was normal except for being somewhat thin. A section stained with hematoxylin and eosin

showed throughout the entire subepithelial connective tissue a pathy infiltration of cells. Some were arranged about the blood vessels and some areas seemed to be replacing the connective tissue. This infiltration was primarily of lymphocytes and fibroblasts. In several areas the connective tissue appeared pale and homogenized, making it difficult to see the fibriles, with a complete loss of nuclei in the tissue. There was one large vessel deep in the corium in which the intima was definitely swollen and there was a proliferation of the entire endothelium. Van Gieson's stain showed that the collagen bundles were destroyed by necrobiotic areas. Urinalysis revealed glycosuria of 4++++. Acetone and diacetic acid were not present. A blood examination revealed the following:

	Mgm. %	Normal Mgm. %
Sugar	284	80-130
Total lipoids	1900	570
Total cholesterol	275	100-230
Free cholesterol	137	30- 60
Cholesterol esters	138	40- 70
Phosphatides (lipoid P-11.1 mg.)	278	
Total fatty acids	792	190-420

The clinical and histologic appearance of the skin lesions and the presence of diabetes with such an abnormal fat metabolism was characteristic of *necrobiosis lipoidica diabetorum*.

Progress: The patient was placed on a diet of protein 58, fat 50 and carbohydrate 132, and started on insulin. Within a month



NECROBIOSIS LIPOIDICA DIABETICORUM—Fig. 1. Shows the elevated yellowish-pink papules, more violaceous at the periphery with thin whitish scales on the surface. Fig. 2. Shows a large plaque-like lesion above the right outer malleolus. Fig. 3. Low power histologic picture showing marked proliferation and thickening of a large vessel deep in the corium with necrobiosis of the connective tissue in the mid-corium, and cellular infiltration in the upper corium. Fig. 4. High power shows homogenization and the loss of nuclei of the connective tissue in the necrobiotic areas. **XANTHOMA DIABETICORUM**—Fig. 5. Low power shows area of foam cells heavily laden with fat. There is a cellular infiltration of histiocytes and young fibroblasts. Fig. 6. High power shows large foam cells full of lipid material.

he had lost 12 pounds and was receiving 16 units of protamine zinc insulin. The fasting blood sugar was 147 mg. per cent. There was no change in the appearance of the skin lesions. After a month of cooperation, insofar as treatment was concerned, the patient resumed the excessive use of alcohol and has not been seen since that time.

Treatment for necrobiosis lipoidica diabetorum depends primarily upon control of the diabetes. In the instances reported in the literature the skin lesions have been extremely slow in involution and, in many cases, have not responded at all. Oppenheim has noted sudden spontaneous remission of some of the plaques in his patients. Urbach has suggested a diet rich in carbohydrates and poor in fats combined with local injections of insulin around the lesions.

II. INFLAMMATORY LESIONS.

Inflammatory lesions make up the largest group of skin complications in diabetes. The most commonly encountered are furuncles, carbuncles, pruritus, epidermophytosis and infections secondary to injury. So frequently does the undiagnosed diabetic consult a physician for boils, carbuncles, pruritus or infections of the hands and feet that it should be a standard procedure to examine routinely the urine for sugar. Upon occasion the presence of diabetes may be overlooked without repeated urinalyses, especially postprandial, or blood sugar estimations. Such additional investigation is always indicated if the patient is obese or reveals a family history of diabetes.

The decreased resistance of the uncontrolled diabetic to infections of the skin is still unexplained. That it is definitely related in some way to inadequate diabetic control is shown clinically by the fact that the resistance to infection of well-regulated diabetics approximates that of non-diabetic individuals. Although local therapy may be definitely beneficial and necessary, it is of primary importance to make an effort to control the diabetes by diet and insulin if indicated.

A. *Furunculoses*. Careful cleanliness of the skin is of utmost importance in both prophylaxis and treatment. Simple lotions may be used, care being taken not to over-treat the skin. The furuncles should not be opened by the patient but aseptically by the physician only when necessary.

B. *Carbuncles*. This is one of the most serious of diabetic surgical complications. Prompt treatment is essential and in every instance the patient should be in a hospital. Radiation if used early may be most helpful. It should be supervised by a surgeon as well as a radiologist for drainage is frequently necessary. In some of the later cases wide excision and drainage are often advisable.

The use of sulfanilamide or some of the related compounds has been of definite value.

S. T., an obese white man 55 years old, consulted a surgeon because of a developing carbuncle of the neck, present for four days. Urinalysis revealed heavy glycosuria and a fasting blood sugar was 266 mgm. per cent. The patient had not been aware of having diabetes. Immediate hospitalization was recommended and within a few days the diabetes was controlled with protamine zinc insulin, 25 units, and unmodified insulin 20-20-20. X-ray therapy was instituted and within several days a number of fluctuating areas were incised and drained. After 17 days he was dismissed from the hospital. The diabetes was well controlled with a diet of protein 50, fat 50 and carbohydrate 150, and 20 units of protamine zinc insulin before breakfast. After a week, during which time the carbuncle continued to drain, a rather diffuse cellulitis developed over the entire posterior neck. The patient was again hospitalized and better drainage established by wider incision and hot packs. Neoprontosil was administered and within a week the cellulitis had subsided. He was dismissed from the hospital and the carbuncle gradually healed without further complications. In two months' time the patient had lost 20 pounds of excess weight and the diabetes was well controlled with diet alone. A fasting blood sugar 10 days after insulin had been discontinued was 133 mgm. per cent.

C. *Pruritus*. The most common form of pruritus encountered in diabetics is genital and anal involvement. Pruritus vulvae is sufficiently frequent that diabetes should be strongly suspected in every instance. In the past few months our attention was called to three patients who had been treated for the condition from six months to three years before the diagnosis of diabetes had been established. In each instance one or more urine specimens were reported negative for sugar before glycosuria was finally found. This strongly suggests that every patient with pruritus vulvae should have repeated urinalyses and a fasting or postprandial blood sugar estimation before diabetes can be ruled out. As a rule, local pruritus complicating diabetes subsides in one to two weeks after the diabetes is controlled. Occasionally fungicidal therapy may be necessary. General pruritus is rare and, according to Joslin (1), may resist all forms of treatment for weeks.

D. *Epidermophytosis*. This is the most common skin complication found in diabetics; the incidence is much higher than in non-diabetics. It is especially threatening to the older group of patients because of the danger of development of secondary infection leading to osteomyelitis, cellulitis or

gangrene and finally amputation. The increase in sugar content of the sweat probably gives a more favorable media for growth of the higher fungi and contributes to this greater incidence.

E. *Infections Secondary to Injury*. Many infections of the hands and feet in diabetic patients follow injury, often of slight degree, such as the application of heat, stubbing the toes, trimming of corns, callouses and nails and the wearing of improperly fitted shoes. The majority of these can be prevented if the diabetic is warned as to proper hygiene and the necessity of avoiding any type of injury to the extremities. Gangrene of the extremities, especially the feet, often follows infection after slight trauma. It is still one of the major complications of diabetes in patients past middle age.

III. MISCELLANEOUS.

A. *Insulin Allergy*. General allergic reactions to insulin are rare and of decreasing incidence since the more purified preparations of amorphous insulin have been on the market. Local allergic reactions are frequently seen following the injection of unmodified and protamine zinc insulin. The incidence has been reported as occurring in from ten to twenty-five per cent of patients taking insulin. Hard, tender, itching, red areas varying from 2 to 15 cm. in diameter may occur at the site of injection. In the great majority of patients, desensitization gradually takes place and after a period of two to six weeks local reactions no longer take place. Histaminase (8) has been reported to be of value in the treatment of patients with insulin allergy of moderate severity.

B. *Lipodystrophy (Insulin Atrophy)*. A small percentage of patients who take insulin develop atrophic areas usually in the

region of, but sometimes removed from, the site of injection. They are characterized by depressions of the surface of the skin and disappearance or decrease in the subcutaneous fat. The exact cause of this occasionally disfiguring complication is not known. If insulin is discontinued, for example, in the non-diabetic the areas may eventually disappear. In the diabetic who must necessarily continue the use of insulin other sites for injection should be selected, if possible. The incidence of atrophy appears to be definitely decreased in patients using protamine zinc insulin.

SUMMARY

The more commonly found skin manifestations in diabetes mellitus have been briefly discussed. Xanthochromia and many common inflammations of the skin may suggest diabetes as a causative factor.

Certain especially indicated local and general therapeutic measures may be of value but control of the diabetes by diet and insulin, if necessary, is also of vital importance.

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The Negro In Proctology*

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While the inheritance of disease, as such, has been discredited by biologists, anthropologists have called attention to the possession of distinctive anatomical character-

istics and the existence of diseases more or less peculiar to certain races. Quatrefages¹, for example, states that, "While the essential or fundamental nature of all men is the same, unity of species and multiplicities of races involve the liability of all men to com-

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mon diseases which will, at most, vary as to accessory phenomena, but also allow the existence of diseases more or less peculiar to certain human groups." Discussing the negro anthropologically, Wortman² stated, "In the development of the human race from a lower mammalian class separations and divisions have occurred, some off-shoots being extended in a primitive stage — the negro division of the human family possessing distinctive anatomical characteristics bearing the unmistakable imprint of this origin." Pearson³ also believes that the negro lies nearer to the common stem—being nearer to the childhood of man. Pearl has called attention to the great importance of the evolutionary history of the human body in

dicitis, cholecystitis and peptic ulcer but more apt to exhibit them in grave form. Rivers⁷ has called attention to a lowered incidence of peptic ulcer and Sharon⁸ found a decreased incidence in peptic ulcer, ulcerative colitis, functional intestinal disturbance and cholelithiasis and greater incidence of gastric cancer. Steigmann⁹ however believes that the negro is just as susceptible to duodenal ulcer when he is subjected to the same environmental strains. Pearl¹⁰ states that there is a definite difference between whites and negroes with respect to malignant disease both in incidence and selectivity of organs. He found that malignant tumors and mastitis occur relatively more frequently among whites and that the relative incidence



Figure I. The "rubbery" fibrous perianal overgrowth which is seen associated with infection in the negro rectum — (pseudo-hemorrhoids).

Figure II. Atrophy and destruction of anal and vaginal outlets in lymphathia venerea.

Figure III. Ano-vulvar elephantiasis associated with stricture in Mexican female.

influencing human mortality and Dublin has also demonstrated statistically definite differences in death rates, particularly in certain diseases between the white and colored races.

The observations of all those who have reported clinical studies in this field indicate that certain radical disease diatheses occur and that the dark-skinned races, particularly the negro, present outstanding examples of this interesting variation. Urologists⁴ have called attention to the frequency of urethral stricture, its sequelae, and adenitis; gynecologists⁵ have observed the increased incidence of fibroid processes in pelvic diseases in the race and have found also that pelvic inflammatory disease is twice as frequent; surgeons⁶ have concluded that the negro has apparently an immunity to certain infections, chiefly of the streptococcic variety, to certain forms of malignant growths, and to biliary and urinary lithiasis, and they believe that he is less likely to develop appen-

of malignancies in the alimentary and reproductive symptoms is higher in the negro and expresses himself as convinced that there are biological differences in constitutional pattern between the two races. Moreover, certain diseases are found almost exclusively in the negro, two examples being sickle-cell anemia and ainhum¹¹; the latter condition is a peculiar form of gangrene of the fourth and fifth toes which is preceded by the formation of a fibrous constricting band at the proximal interphalangeal joint which is found in Brazil, Africa, India and the southern portion of the United States.

Because our dispensaries in the Southwest are populated largely by members of this race, the physicians of this section will continue to find the pathological idiosyncracies of the negro of insistent interest and our confreres in the North, since the Hegira of the colored race to their section, are forced to share our interest and concern.

My attention was first called to the inter-

esting clinical variations exhibited by the negro patients on the rectal service of Baylor University Medical School some years ago and my observations at that time formed the basis of several published reports¹². A continued interest inspired by many years of observation is responsible for this renewed presentation of the subject. Definite disease variations occur in the black race and they are apparently the result of two principal factors — a preponderance of the inflammatory anorectal lesions, such as abscess, fistula and ulcer, over the non-inflammatory conditions more commonly seen in white races as hemorrhoids and simple fissure and the tendency of all dark-skinned races to develop adult type connective tissue in excess as the result of any local irritation. In order to supply a term broad enough to include all the manifestations of the keloid or fibroid tendencies seen in the race, I suggested in 1923¹³ the use of the term "fibroplastic diathesis."

Analysis of a series of white and negro cases entering our hospitals has demonstrated that pruritus ani is seldom seen in the negro, that fissure is two-thirds as common, that prolapse occurs in the same ratio, that rectal cancer is one-fourth as common in the black and that all the inflammatory lesions occur more frequently in the colored race. Proctitis is twice as frequent, anal ulcer, rectal abscess and anal fistula are three times as common. Stricture of the rectum was eleven times as common in the negro and if post-operative and chemical strictures from injections are eliminated, the increased incidence is even more striking. In spite of the fact that our present theories concerning the etiology of rectal stricture have undergone drastic revision with the discovery of the mechanism of the disease process initiated by the virus of lymphopathia venerea, the fibrous contractions resulting from invasion of the lymphatics with this virus continue to occur almost entirely in the dark-skinned race. Moreover, these strictures are accompanied by all manner of fibrous tissue over-growths illustrating the fibroplastic diatheses—hypertrophic anal margins (Figure I), (often miscalled hemorrhoids), dry condylomas, and atrophy (Figure II) or elephantiasis (Figure III) of the anal or vaginal margins.

Moreover, when internal hemorrhoids are seen in this race, a definite tendency to fibrosis is present, suggesting that the fibroplastic diathesis has a tendency automatically to efface the pile. To check this observation, sections from unselected cases representing an equal number of Negroes and Caucasians were submitted to a pathologist without identification of the slides as to race and the request was made that they be ex-

amined as to the relative presence of fibrous tissue and vascularity in each slide. Eighty-seven and three-tenths per cent of the Negro cases were found to exhibit marked fibrosis; 25 per cent demonstrated vascularity in the microscopic picture; 37 per cent of cases from white individuals were definitely fibrotic, 37.5 per cent definitely vascular and 25 per cent somewhat vascular.

Buie and Malmgren¹⁴ believe that infection is present in all internal hemorrhoids, possibly being the chief etiologic agent in their production; if this be true, it is a reasonable presumption that the lower incidence in the Negro is due to tissue response to this irritation as well as the partial racial immunity to varicosity which has been mentioned by Matas¹⁵ and Day⁴.

In a study of 3,300 consecutive cases in which serologic tests for syphilis were done in Baylor Clinic in 1934, the incidence of positive findings was 9 per cent in white patients and 31 per cent in Negroes. In the Department of Medicine (Negro) the incidence was 39 per cent. Fifty per cent of the white patients with syphilis took insufficient treatment; 74.3 per cent of the Negro patients took insufficient treatment.

While syphilis itself apparently plays no great part directly in producing anorectal lesions, with the exception of peri-anal mucous patches and condylomata lata, the incidence of syphilis, much easier to determine definitely, may well serve as an index to the probable incidence of various other venereal infections, including gonorrheal proctitis, chancroid and lymphopathia venerea. It is logical, therefore, to expect that venereal infections should serve as etiologic agents for a larger group of anorectal disease in the black than in the white, and our own observations have confirmed this expectation. Chancroid is a not uncommon occurrence; gonorrheal proctitis serves as the origin, through chronic infection of the crypts, of numerous abscesses and fistulae in the Negro.

Granuloma inguinale, an ulcerating and eroding lesion of the groin, perineum or perianal bones, which is confined to the various layers of the skin in its effect, rather than involving lymphatic tissue as does lymphopathia venerea, has been observed so commonly in the Negro and so rarely in the white races that special mention is made in the literature when the latter occurs. It has also, however, been reported in other dark-skinned races: East Indians, Melanesians, who, like the Negro, also possess the fibroplastic diathesis. The pathologic picture shows hypertrophic epithelial papillae with sclerotic underlying connective tissue containing numerous fibroblasts. As the lesion

heals, the edges form a dense cicatrix with the feeling and appearance of keloid.

COMMENT

There is little doubt that certain important variations in disease reactions are present in the colored race as the direct result of inherent biological characteristics. In the ano-rectum a tendency to excess production of adult type fibrous tissue is the most striking example of such a diathesis.

Unquestionably certain other variations in the negro's reaction to disease, such as his apparent immunity to peptic ulcer, are environmental rather than chromosome transferred, and may be expected to gradually approach the normal for the ordinary population.

Both types of reaction are, however, of equal clinical importance and thorough knowledge of their exhibitions are of practical value in diagnosis and therapy.

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Acute Intussusception In Infants, A Report of Two Cases*

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MUSKOGEE, OKLAHOMA

It is estimated by various authorities in this country that the mortality in acute intussusception is about 50 per cent. Those cases in which reduction is not possible, or in which resection is necessary because of a gangrenous condition of the bowel, carry a mortality of about 90 per cent.

In reviewing reports of series of cases, in this country and abroad, the chief factor influencing this high mortality has been conclusively shown to be the time interval between onset of symptoms and operative correction. Largely through the efforts of such men as Clubbe and Hipsley of Australia in educating the medical profession to this fact, the mortality resulting from acute intussusception in Australia and England has now become surprisingly low. Chief among the men whose efforts and writing have done most to lower the high mortality rate in this country is Ladd of Boston. His monograph on Intussusception, published in 1915, analyzes completely the factors which are responsible for the high mortality. And it is only through following the teachings and principles proposed by these men that this country can hope to obtain the excellent re-

sults which have been accomplished by the English and Australians.

When we consider all conditions which occur in medicine, we find relatively very few which should be classed as real surgical emergencies. Acute intussusception must be considered as one of these few. Also, there are few conditions in all of medicine which present such a characteristic sequence of symptoms. Typically, these symptoms are so strikingly alarming to the mother that, in all fairness, we are forced to admit that in a large per cent of the cases which are not corrected within the first twenty-four hours, it is not the fault of the mother. She has usually called medical aid within the first twelve hours, and the doctor who has first seen the patient has either failed to recognize the condition, or has failed to recognize the urgent need for early surgery.

The diagnosis of intussusception is, in most cases, very easy to make, and can frequently be made from symptoms alone. The large majority occur in infants under two years of age — most commonly six to eight months. It is twice as common in males as in females. Most commonly it occurs in well nourished infants, who have previously been perfectly well. Characteristically, there is a sudden onset of abdominal pain — the infant

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draws his legs up, cries out and shortly vomits. This is followed by pallor, sweating, refusal of food, recurrent abdominal pain and vomiting. Usually a normal stool is passed, and from six to twelve hours later thin, bloody mucous of current jelly appearance is passed. During the first twenty-four hours, except for appearing listless and refusing food, the baby seems normal between paroxysms of pain. About this time there develops the sunken eyes, the distended abdomen, fever and evidences of toxicity and dehydration. At this time the intussusception may appear at or protrude from the rectum.

The one characteristic sign of intussusception is, of course, the typical sausage shaped mass, felt either externally or rectally, or both. In the large majority of cases this can be felt. Occasionally, when the intussusception has progressed to within the transverse colon, and lies under the right or left costal border, it may not be palpable, and it is my feeling that only in those cases where a mass cannot be palpated, should a barium enema be resorted to. The other signs of intussusception are those which result from the strangulation of the bowel — namely, signs of shock and toxicity.

Intussusception is classified in types according to the point of origin and the position to which the intussusception has progressed, and are, namely, (1) ileo-ileal, (2) ileo-colic, (3) ileo-ileocolic and (4) colo-colic. Very rarely an intussusception may be retrograde. In reporting 372 cases of Intussusception treated at the Boston Childrens' Hospital between 1908-1932, Ladd and Gross found seven per cent to be ileo-ileal, 75 per cent ileo-colic, nine per cent ileo-ileo-colic, two per cent colo-colic. There were three cases of multiple intussusception and one case of ileal retrograde Intussusception. By far the most common is the ileo-colic type.

While in a small per centage of cases of intussusception there has been demonstrated some mechanical cause, the etiology of the majority of cases is not definitely known. Meckel's Diverticulum or an appendix inverting into the bowel may originate an Intussusception. Likewise a papilloma, lipoma, intestinal polyp, enterocyst or lymphoma may be the starting point. For the large majority of cases however, speculation still exists as to the cause. Among possible causes are mentioned abnormal peristalsis, paralysis of a segment of the bowel allowing invagination to occur, and anatomic conditions simulating a foreign body in the bowel. Perrin and Lindsey, making observations based on the facts that most intussusceptions occur in the regions of the ileo-cecal valve and during infancy, concluded that (1) the mucosa of the ileo-cecal valve contains

dense patches of lymphoid tissue forming a ring about the orifice. This exists to a lessening extent upward in the lower six inches of the ileum. (2) The ileo-cecal valve at this age projects about three-eighths of an inch into the cecum. (3) The lumen of the colon and the lower ileum are relatively small during the first year of life. (4) The entire colon has a relatively long meso-colon in infancy. This makes the colon very mobile and readily permits invagination. With this anatomical arrangement, these workers theorize that any slight gastro-intestinal disturbance might cause the lymphoid tissue to swell and practically close the lumen of the narrow ileum. It would also cause the ileo-cecal valve to swell and project further into the lumen of the narrow colon. This swollen rigid portion of the bowel, being incapable of transmitting peristaltic waves, acts as a foreign body which the bowel tries to expel, resulting in an intussusception. Cases which originate in the colon they attribute to swollen lymphoid particles acting as foreign bodies and those originating in the small bowel Peyer's patches as the causative factor. While this is entirely theoretical, it most nearly fits in with the clinical and anatomical findings.

It is quite generally agreed that the proper treatment of acute intussusception is immediate surgical correction with reduction when possible, or resection when reduction is not possible. If the intussusception is over 24 or 36 hours old it is usually advisable to administer parenteral saline and glucose pre-operatively. This is best given as 10 per cent glucose intravenously, 10 cc per pound body weight and normal saline 15 cc per pound body weight subcutaneously. If the dehydration is not severe and toxicity is not marked, the parenteral fluids can be administered after operation. Methods for reduction other than surgical should be emphatically discouraged. Among these may be mentioned attempts at reduction by external abdominal manipulation; inflation of the bowel by air or fluids under pressure, or by barium enema and fluoroscopy. Any of these methods are capable of producing serious bowel damage and only delay proper surgical treatment. As mentioned above, barium should be introduced by rectum only in those cases where the intussusception cannot be palpated.

Spontaneous cure of intussusception is said to occur in about two per cent of all cases. This results either from a self-unfolding of the Intussusception, presumably resulting from peristaltic action of the bowel, or from the Intussusception sloughing en masse and being passed by rectum. However, when one considers the very slight chance that either of these will occur, the

possibility of conservative treatment with this in view is out of the question.

Considering the differential diagnoses, mention should be made of any condition which produces blood in the stool of an infant. Among these are acute ileo-colitis, influenzal infections, Meckel's diverticulum, Henoch's purpura, prolapse of the rectum, rectal polyps, and adhesive or congenital bands in the region of the cecum. However, in only a very small percentage of cases is there any doubt about the diagnosis of Intussusception.

Details of operative procedures will not be discussed in this paper. Any standard surgical textbook contains adequate operative description. Montgomery, in Brennenmann's "System of Pediatrics," gives a complete outline of surgical treatment. Likewise, Ladd and Gross, in their report of 372 cases treated surgically at the Boston Children's Hospital, give a complete discussion of all types of surgical procedures. It should be mentioned in this connection that one should always be prepared when operating an Intussusception to do a resection if necessary.

Post-operative treatment is of the utmost importance — vomiting may continue after the Intussusception is reduced, possibly due to an ileus and in this event the use of the Levine tube is often of great value. Parenteral fluids, glucose and saline, are essential. In cases of severe toxicity, transfusions are often indicated.

I have taken occasion to review the records on all cases of intussusception that have been treated in the hospitals of Muskogee during the past three years, during which time I have been in practice there. In brief there have been only eight cases treated in this three year period, two of which I operated myself, and these cases are reported in greater detail. Of the other six cases, one was a seven months male infant, ill for three days, who died in the hospital before an operation could be performed. The second was a two year male infant, ill for four days, operated and recovered. The third was an eight months female infant, ill for thirty-six hours, operated and recovered. The fourth was a two weeks old male infant — history of onset indefinite, operated and recovered. The fifth was a four months male infant, ill for six days, operated, resection done, died a few hours later. The sixth was a five months old male infant, ill for three days, mass visible at rectum, operative reduction done and patient died three hours after operation. The details of the types of intussusception in these cases were not available. These six cases, together with the two whose reports follow, are certainly not enough of a series from which to draw any

definite conclusions. However, in these eight cases, there was a mortality of fifty per cent.

SUMMARY OF CASE ONE—RECORD No. 14,892, MUSKOGEE GENERAL HOSPITAL

This seven months old male infant was admitted to the Muskogee General Hospital on October 20, 1938 with the following history: Three days before admission he became suddenly ill with a diarrhea, slight fever, signs of abdominal distress and vomiting. The family physician was consulted by phone, and a remedy recommended for the diarrhea. Twelve hours later the baby began passing frequent watery stools containing bloody mucous. Intermittant abdominal pain and vomiting continued. During the next twenty-four hours he was seen three times by the family physician, and treatment continued for the diarrhea. The patient was not examined rectally. On the day of admission to the hospital this patient was seen at my office at the request of the doctor in charge. Temperature at this time was 102.2 degrees R. There was evidence of marked dehydration and toxicity. The eyes were sunken and he was completely listless during examination. An egg-shaped mass could be palpated in the left lower quadrant. Rectal examination revealed this mass to be within an inch of the anus. A diagnosis of intussusception was made and an immediate operation advised. A very poor prognosis was given the parents. On admission to the hospital 200 cc of normal saline was given subcutaneously, and a laparotomy performed under ether anesthesia. Condition during operation was extremely poor, and it was thought several times that the patient would expire before reduction could be completed. The Intussusception was found to be ileocolic in type, beginning at a point about two inches above the cecum and advancing throughout the entire length of the colon. After reduction, no portion of the bowel was found to be gangrenous. The patient left the operating room in very poor condition. Subcutaneous normal saline was again administered. About an hour post-operatively he moved his head, opened his eyes and seemed to recognize the mother. Shortly after he suddenly became cyanotic and respiration ceased. The nurse on duty at this time reported that at this point no heart beat could be heard with a stethoscope. From these facts I am not sure but that this patient died of an embolus. In any event, he had extremely slight hopes for recovery. In viewing the history of the onset of this patient's illness, I believe the intussusception resulted from a pre-existing bowel irritation, or ileocolitis of some form. Autopsy permission refused.

SUMMARY OF CASE TWO—RECORD No. 8008, OKLAHOMA BAPTIST HOSPITAL

This seven months old male infant was admitted to the Oklahoma Baptist Hospital September 25, 1938 with the history of having been ill for 30 hours. He was perfectly well when he suddenly drew his legs up over his abdomen and cried out as if in severe abdominal pain. An hour later he vomited and vomiting continued at intervals until admitted to the hospital. Twenty-four hours before admission he passed a blood streaked stool, later passing several thin, bloody, mucous stools. This patient lived twenty miles from Muskogee and was seen by the family physician two hours after onset of symptoms. A diagnosis of malaria was made and the patient was given some form of quinine to take by mouth. Because he continued to vomit, not retaining any of the quinine preparation, and continued to have bloody stools, the following morning a second physician was consulted, who prescribed a form of quinine to be rubbed into the skin, since the baby would retain nothing by mouth. I saw this patient that evening, about twenty-eight hours after symptoms began. The history was typical of intussusception, although I could feel no mass either rectally or externally. There was a gush of thin, bloody mucous from the rectum as the examining finger was withdrawn. It was decided to do a fluoroscopic examination with barium introduced by rectum. The barium stopped abruptly at the mid-transverse colon. Immediate laparotomy was done under ether anesthesia and the Intussusception fairly easily reduced. The bowel appeared to be in good condition. Parenteral fluids were not given before operation. The intussusception was of the ileo-colic type. The temperature before operation was normal. This patient ran considerably more of a stormy course than seemed justified by what was found at operation and the length of time of the in-

tussusception. Following operation, large amounts of subcutaneous saline were administered. On the first post-operative day the patient continued to vomit a greenish material and temperature rose to 106.2 degrees R. A Levine tube was inserted with continuous suction according to the method of Wangenstein. This was left in place for two days and subcutaneous saline and intravenous glucose administered twice daily. The patient on the second day began to pass flatus and small amounts of barium. On the fourth day a transfusion of 100 cc of citrated blood was given. At intervals during the next two weeks he would vomit occasionally, but retained an adequate amount of milk, and on the sixth post-operative day began having normal stools. The operative wound healed well and the skin sutures were removed on the seventh post-operative day. The patient was discharged from the hospital on October 13, 1938, cured, eighteen days after admission. I have seen this patient at intervals since discharge, and to date there has been no recurrence of symptoms.

SUMMARY

- (1) Two cases of acute intussusception in infants are reported.
- (2) Emphasis is again made on the importance of early diagnosis and surgical correction of acute intussusception in infants.

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Collodion as a Dressing For Skin Grafting Of Granulating Wounds

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Not infrequently the surgeon who deals with skin grafting is confronted with the problem of resurfacing a large granulating wound in a debilitated patient. Usually these wounds are the aftermath of an extensive burn. As a result of the toxemia and tendency to general exhaustion of body

resources, these patients consequently are none too good an operative risk. Especially are they not a good risk for any prolonged surgical procedure requiring a general anesthetic. Any method or methods of technic which will materially shorten the operative time without compromise of a satisfactory

result will necessarily reduce the surgical shock of the procedure and in so doing will add to the well being of the patient. The use of collodion as a dressing to obtain primary fixation of a skin graft in the covering of a granulating wound accomplishes this result quite satisfactorily.

During the past two years several patients who have required resurfacing of a large percentage of their skin covering have presented themselves for surgical correction of their misfortune. Even though these patients' general condition, as well as the local condition of the wound, was considered to be good, it has been learned from experience that they do not tolerate well any prolonged operative procedure under a general anesthetic. It was, therefore, quite desirable to develop a method of skin grafting applicable to these cases that would be entirely satisfactory as judged by the end result, and would, at the same time, considerably shorten the duration and risk of the operative procedure. By substituting collodion instead of sutures as a means of obtaining primary fixation of the skin graft, the operative time for any extensive skin grafting procedure on a granulating wound has been reduced by nearly one-half. That this in itself is a tremendous advantage to both patient and surgeon is quite obvious. But just as important is the fact that by this method of reduction of operative time a satisfactory result is in no way compromised. Using this method, the percentage of "take" of skin grafts applied to granulating areas has been above 95 per cent. In no case has there failed to be a "take" of less than 85 per cent of the grafts, and in most cases a practical 100 per cent "take" has been obtained.

Another important indication for the use of collodion in preference to sutures in these cases is that extensive granulating wounds often bleed so severely when suturing is attempted that it often makes the procedure extremely hazardous, if not entirely impossible. The gentle application of a skin graft followed by the application of collodion does not incite bleeding. By the prevention of this unnecessary bleeding, surgical shock is eliminated, and the operation is thereby completed faster, with greater technical ease, and with consequent increased safety to the patient.

There are many reasons and many occasions when it is either desirable or necessary to perform a skin grafting operation under local anesthesia. If sutures are to be employed, it usually is not practical or possible

to graft a large granulating area under local anesthesia. There are chiefly two reasons why this is true. First, it is difficult, if not impossible in most cases, to obtain satisfactory anesthesia of a granulating area by a local anesthetic; and secondly the administration of the local anesthesia and the placing of the numerous sutures is quite a time-consuming procedure. However, by using collodion as a dressing to obtain primary fixation of the skin graft, it has been possible to perform these operations under local anesthesia with ease and relative speed. The recipient site for the skin graft requires no anesthesia as the application of the graft held in place by collodion is a painless procedure. The donor site for the skin graft is readily anesthetized by the use of local infiltration of 1 per cent novocaine. Recently 800 cm² of skin was grafted to a granulating area under local anesthesia at one operation using this technique. A 100 per cent "take" of the graft was obtained. It is therefore evident that in certain cases in which local anesthesia is desirable, the use of collodion may be considered as a great advantage in the successful carrying out of this procedure.

In the skin grafting of granulating wounds there are several fundamental principles which have long been recognized and which must be strictly followed if success is to be expected. Before grafting is attempted, the granulation tissue which is to be the recipient of the skin graft must be clean, firm, compact, healthy red in color, and relatively free from infection. If these preoperative criteria are not fulfilled, success in grafting these areas is not to be obtained regardless of what actual operative technique is followed. The use of collodion is no exception and adherence to the above principles must be strictly observed.

The technic in the use of collodion as a dressing to obtain primary fixation of a skin graft on a granulating wound is truly quite simple. After the skin graft has been gently smoothed over the desired area, a thin layer of collodion is "painted" over the graft with light strokes of a cotton applicator dipped in the collodion. Flexible collodion rather than the non-contractile type is essential. One precaution necessary is that the collodion be of medium consistency, preferably about the consistency of Karo corn syrup. If it is thick it cannot be applied evenly without dislodging the graft, and on the other hand, if it is thin and watery the collodion will "run" so badly that its application cannot

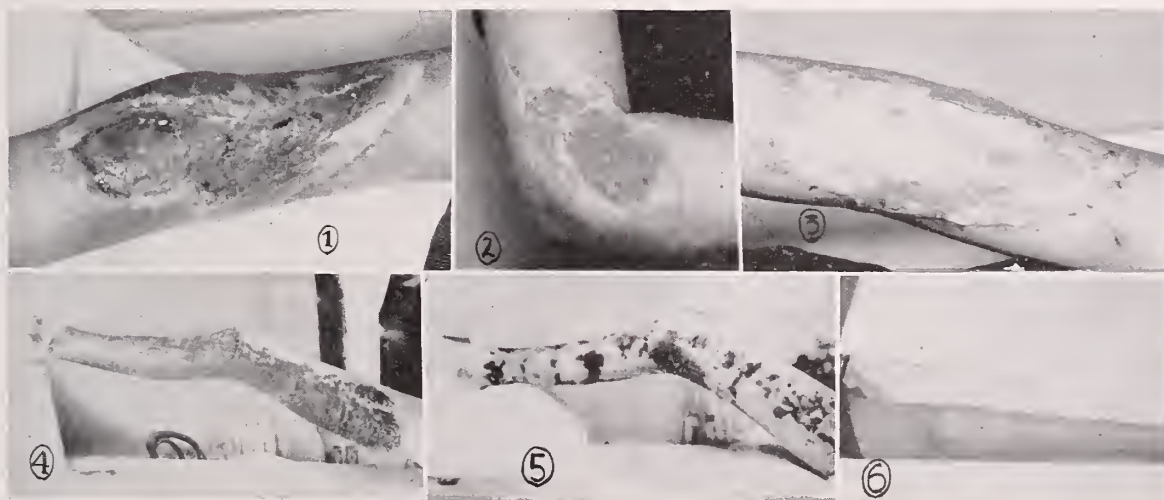
accurately be controlled. No collodion is to be permitted to get between the graft and the granulation tissue as this will absolutely prevent the growth of the graft. After the collodion is applied, the entire wound is smoothly covered with three or four layers of fine mesh gauze impregnated with some grease such as xeroform ointment. Following this, large cotton pads (commonly called ABD's) are held in place over the wound with a four inch gauze roll bandage which is applied quite snugly and evenly so as to maintain constant firm pressure over the grafts. The entire dressing is then incorporated in a light plaster of paris cast in those cases in which the grafted area is near a joint. Constant firm moderate pressure and perfect immobilization are necessary for a complete and satisfactory "take" of the graft. Such a dressing is to be left undisturbed for a period of three to four days.

The above described method has now been used many times. With adequate reason and observation it is believed that in certain cases this method is the method of choice as a

means to obtain primary fixation of a skin graft applied to a granulating area. This method is not presented as a panacea, but it is definitely believed that there are distinct advantages in its use in the type of cases above described. It is to be understood that this method is applicable only when thin split thickness skin grafts are used. Furthermore it is thought that this method is applicable only in the covering of granulating wounds as it is believed that in other instances suturing is unquestionably superior. Suturing of the graft to its recipient site is preferable when this is practical and possible, but in the group of cases where for one reason or another suturing is not desirable, the use of collodion as above described is highly recommended as worthy of trial because it is believed that this method will prove of great benefit both to the patient and to the surgeon.

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NOTE: Top of figures 1 and 3 is at right; top of figure 6 is at left.

Case One: 17 year old girl who was in an auto accident three months before first seen in the clinic. At the time of the accident there was some actual loss of skin. Gas gangrene infection developed on the second day and was associated with further loss of skin over the volar surface of the right arm, cubital fossa and forearm.

FIGURE ONE shows the condition of the arm when first seen three months following the accident. Healing of this chronic ulcer was the first consideration. Because of the history of gas gangrene and the fact that the patient desired a local anesthetic a thin graft was applied using the "collodion technique."

FIGURE TWO shows the satisfactory result thus obtained. In order to give this girl a better cosmetic result, two and a half months later, or five and a half months after the original injury, the entire damaged area, including the well healed thin split graft, was excised and a thick skin graft was applied.

FIGURE THREE shows the final result. The photograph was taken on the tenth post-operative day, immediately followed removal of the sutures.

Case Two: An eighteen year old boy with a third degree gasoline burn of the lower extremity.

FIGURE FOUR shows the condition of the leg three weeks following the burn.

FIGURE FIVE shows the condition of the leg after two skin graft operations using the "collodion technique."

FIGURE SIX shows the final result four months after the original burn. In this case collodion was used in order to shorten the operative time and to decrease the shock incident to excessive bleeding caused by attempt of suturing the grafts in place.

Some Safety Factors In Obstetrics

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A teacher in obstetrics recently made the following statement in a lecture to a group of physicians: "You are justified in sacrificing the first child of a young mother in order that the way may be cleared and made easy for future vaginal deliveries rather than run the risk of a cesarean section." As a practitioner, I find it very difficult to convince myself or any young mother of the truth of that statement. My experience has been that if I subject the young mother to a long hard labor, a long anaesthetic, a badly stretched perineal floor, followed by a dead baby, and then try to convince her and her family that I was justified in doing this so she could have an easier time with the following deliveries, I just don't get by with it. They usually have a different doctor the next time. The first baby means more to the young couple than all the rest. They expect the modern obstetrician to guide the mother safely through the nine months and to so manage the delivery that the baby will be born without serious damage to herself or the baby. That is what they expect of us and I think they have the right to demand it. If we are to progress we cannot accept a situation that justifies the death of the first born. I, for one will never be satisfied until I can find a way to deliver my first babies without serious damage to either the mother or the baby.

Among the safety factors to be considered before delivery, I want to call attention to some that are neglected. Very few pregnant women are adequately examined. The first examination should always include determination of the basal metabolic rate, tuberculin test, Wassermann, complete blood counts, hemaglobin, X-ray of chest, X-ray of pelvis, urine, blood pressure, and pelvic measurements, as well as a general physical examination. We have to admit that the neglect of any one of these tests might mean the difference between life and death for the mother or baby. In spite of this, we all know that less than one pregnant woman out of one hundred has all these tests. After the tests have been made, we must do something about the deficiencies that are discov-

ered. Just because most pregnant women become anemic does not mean that we cannot combat anemia to a great extent. A pregnant woman who comes to delivery with good rich blood has a better chance than the anemic woman. Her baby also has a better chance. For this reason, I do a complete blood count once a month. If the anemia does not respond to iron and vitamins by mouth, then they are given iron in the vein, which has as yet never failed me. Urine, blood pressure, and weight should be tested every two weeks. Do not diet your mother. How foolish to think you can control the size of the baby by dieting a mother. The size of the baby is a family characteristic and depends on the bony structure. Dieting the mother might deprive the baby of much needed chemicals and vitamins.

For the past ten years our literature has been flooded with articles on cesarean section. Out of all these discussions, a few facts stand out. Every one says that too many sections are being done. I agree, but I like the way it is put by Dr. McGilvery of New York. "Cesarean sections are performed too frequently by men untrained in abdominal surgery." Then I would add, too many classicle sections are done. We are forced to the conclusion that if the patient is to have a cesarean, it is much safer to do the cesarean as an elective cesarean before the onset of labor. Therefore, we should do everything possible to determine in advance any probable difficulties which might arise during a vaginal delivery such as cephalopelvic disproportion, malposition, multiple pregnancies and deformities. A simple X-ray taken just before delivery, together with careful measurements and the Hillis manouver, will add greatly to our knowledge. Genuine low cervical sections are over twice as safe as classicle sections. Mortality records taken from seventeen American authors give percentages for all kinds of sections running from 1 to 8 per cent, average being 5.8 per cent. Marshall of Liverpool reported on 1,263 low cervical operations with mortality of 1.42 per cent. In Chicago six years ago, 490 classicle and 541 low segment operations

were performed. In the classicle there was a mortality of 5.5 per cent and only 2 per cent in the low cervical group. In the Chicago Lying-In Hospital for the same period they had a 6 per cent for classicle and 1 per cent for cervical.

Dr. Harvey Matthews¹ of Methodist Hospital in Brooklyn reports results on 1,066 cesarean sections: Mortality for classicle, 3.9 per cent and for low cervical, 1.8 per cent. There were a number of deaths from sepsis in the classicle group and none in the low cervical. It was shown that the fatalities following the low cervical operation were attributed to faulty technique of the operator and not to the technique of the operation.

Dr. Barrett² of New York's Woman's Hospital in a lengthy discussion on cesarean section points out the greater safety of the low cervical operation and states in conclusion: "Poor results in obstetrics are caused most often by abuse rather than the proper use of obstetrical surgery. Watchful waiting is essential, but not criminal procrastination."

Dr. Edwin Daily³, Washington, D. C., reports on 1,000 consecutive cesareans at the University of Chicago with eight deaths. There were only fourteen classicle sections in the entire 1,000. He states in conclusion: "It is the ill-advised, ill-timed operations performed by unskilled obstetricians or surgeons in hospitals not equipped to safely care for maternity patients that have brought discredit upon the operation."

Tamis & Klein⁴, Morrisania Hospital, New York, reports classicle deaths, 8.5 per cent, and low segment deaths, 2.7 per cent.

Dr. Soule⁵, of St. Louis Maternity Hospital reports on cesareans for ten years and states that the mortality percentage has dropped with the increase in per cent of low cervical sections over the classicle. During the last five years, they have had only one death, a percentage of .57.

Dr. Casagrande⁶ of Brooklyn Hospital reports on 113 classicle sections with eight deaths and 51 low cervical sections with no deaths. He states that in his opinion some of these eight would not have died if they had had a low section instead of a classicle.

King⁸ of New Orleans reporting on 1,108 sections in 10 years gives maternal mortality of 7.2 per cent for classicle and 3.7 per cent for low cervical. DeLee in discussing his paper says, "The old classicle operation should be pronounced obsolete."

TEN YEARS MORNINGSIDE HOSPITAL

Tulsa, Oklahoma

Jan. 1930 — Jan. 1940

Type Of Delivery	Total No.	Maternal Mort.	Percentage Maternal Mort.	Infant Mort.	Percentage Infant Mort.
Vaginal	5250	12	.22%	337	6.4%
Ordinary					
Classicle	251	16	6.37%	31	12.3%
Low Classicle	76	2	2.6%	8	10.5%
Low Transverse					
Cervical	102	0	0	9	8.4

Look at this table while I point out a few facts. There was a total of 5,679 deliveries of which 7.6 per cent were sections. Notice that in the vaginal deliveries there is a higher maternal mortality than the low cervical sections. Notice also that the low classicle is three times as safe as the ordinary classicle. The low cervical with transverse incision is the safest method of all for the mother. We must realize that some of these sections that lived would have died from vaginal delivery; also that some of the classicle sections would have lived if they could have had a low cervical section. Some of these section deaths would have been deaths no matter how they were delivered. We must not blame all the cesarean death on the operation itself. From the chart it would seem that the cesarean was more dangerous to the baby than the vaginal delivery. It is difficult to see how a section would be as hard on the baby as a vaginal delivery. The vaginal mortality would certainly be higher if there had been no sections. A number of these infant deaths in the sections were due to eclampsia and premature separation of placenta. These babies were already dead or sure to die anyway. If the section could have been done earlier many of them would have been saved.

If low cervical operation is safer for infected cases, and cases that have been in labor, why then would it not be safer for all cases? If the surgeon is not equipped to surmount the added difficulties of a genuine low cervical section, he should not be doing a section at all.

I am often asked what are the advantages of a low transverse section. There are many. Among the most important are these. The incision is made, not in the contracting portion, but in the non-contracting part where the opening can heal in a quiet state and where there will not be any loosening of the sutures permitting leaking of fluid through an opening that is constantly contracting and expanding. Overlapping the peritoneal flaps adds to the safety by preventing any leaking. The low operation is less mutilating to vital parts of the uterus. The low cervical section patients make a quicker and much smoother convalescence. The average stay in the hospital for the classicle sections was 11 days and only 7.5 days for

the low cervicals. It is a safer procedure than a difficult vaginal delivery.

"Whenever the obstetrician feels that a low cervical section will give his mother and her baby a better chance than a vaginal delivery, then and there he has sufficient indication for the operation." This statement was made by Dr. McGilvery of New York. I agree with him. To my mind that covers the indications. Dr. Schumann⁷ of Philadelphia states that in his opinion low cervical sections without test of labor offers the best prognosis for the life and well-being of the infant and the subsequent health of the mother, in all cases of disproportion. He says, "If one contrasts the end results of such sections with those following difficult forceps delivery or version, with their constant threat of fetal hemorrhage and paralysis, not to mention the permanent damage to the pelvic floor, the conclusion is inevitable that cesarean is the procedure of choice." He has no hesitation in recommending the elective low cervical section whenever in his opinion it offers the best hope of successful delivery.

Another safety factor I want to mention is prevention of eclampsia. I have never treated a case of eclampsia; I have never had an eclamptic in my own practice of 21 years; I have never let one go that long. It is better to deliver a threatening eclamptic a week before the first convulsion than to deliver her 24 hours after. If your medical measures fail to stop the oncoming hurricane, don't wait until the storm hits, get the baby out early. You will always save the mother and will give the baby just as good a chance. In these cases the strain of a low cervical section is often less than the strain of an induced vaginal delivery. There is no

method of delivery as safe for the baby as a cesarean section with a proper anaesthetic.

Safety factors in the low cervical section should include: No preoperative medication, Cyclopropane anaesthesia, Pituitrin at beginning of operation, with Ergotrate after baby is delivered, transverse incision in lower uterine segment closed by overlapping flaps, small incisions never over four inches. Accurate suturing is important. Always use a vaginal antiseptic before operation. At present I am using Zephiran full strength instilled one hour before the operation. At St. Louis Maternity Hospital they use 1 per cent Acroflavine in Glycerine.

Let us resolve to give our obstetrical patients better examinations and better care during the nine months. Let us know more about our babies before delivery, more about position and size. Let us stop doing classic sections. Let us each one resolve that we will reduce our own mortality and morbidity. We can do this by concentrating on our own individual shortcomings and by a little more sympathetic understanding of our young mothers having their first baby. Let us put ourselves mentally into her place and do for her what we would want done for us. Let us be justified in the sacrifice of our first born if we must, but let us not be satisfied.

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Management of A Maternity Service With Nurse Attendance At Delivery In A Rural Area A Preliminary Report*

ISADORE DYER, B.S., M.D.

TAHLEQUAH, OKLAHOMA

There have been many methods devised during the last five years to develop the use of Public Health Nurses and Public

Health Administration in a more comprehensive sense in Maternity Services. These programs have developed into a number of different manners in the method used to cope with Rural Maternity needs. Much progress has therefore been accomplished, and

*Presented to the Section of Public Health, Oklahoma State Medical Association, Annual Meeting, Oklahoma City, May 1, 1939.

in those areas wherein such services are offered, the annual mortality rates have been reduced.

Of course we all know the problems confronting the progress of Maternity care in general. Of these, perhaps the problem of education of the patient and coping with the manner of living in rural communities as well as contending with the existing superstitions, is the greatest.

There do not seem to be any set rules or policies with which one could establish such a service in any one community without adapting them to the peculiarities of the given district, so one finds variations in the manner in which Maternity Programs are directed.

Realizing the need of intensive Maternity care in the Northeastern section of Oklahoma, the Children's Bureau has cooperated with the State Health Department in establishing a program in District No. 1. This District comprises the five counties, namely: Delaware, Mayes, Sequoyah, Adair and Cherokee. Now, the one important point which I should wish to stress is that this program was established in a district wherein a full time health service had been in existence for two years. The ice was already broken. The public was already conscious of Public Health work, and most important of all, there were no Administrative problems. By this is meant, the same personnel, office and otherwise, were employed to assist in the Maternity program.

May 1 of this year marks the completion of a full year of this service. It is significant in many ways and when we look back the year has been filled with many experiences both in the field and in the Unit office, and there have been numerous changes that have had to be made often at the expense of progress in a rapidly developing program. However, even with the changes made from time to time, it is felt that for the most part, they were to the betterment of the Program as it exists today.

Not having any set policies with which to fall back upon for support, an attempt was made to formulate a service which would fit into the given community. Early, it was realized that to establish Nurse Attendance at delivery in all of the five counties would be folly. This would not have been possible until the administrative problems could be worked out in a smaller community. Still, it was felt that the five counties should have a Maternity Program to aid the work done in the field by the Public Health Nurses in the respective areas.

In short, Maternity clinics were established in each of the five counties. The clinic sites were picked in strategic areas where

the attendance would justify their presence. In all of the five counties, the county seats have been one of the clinic sites. These are centrally located and oftentimes a patient will "come to town," even at the preference of attending a clinic closer to her home. Seventeen to nineteen such clinics are held each month.

These clinics are open to anyone whom the Nurse deems eligible. Emphasis is placed on those patients who have no family physician, those who are determined to be delivered by midwives, those who are eligible for the Indian Hospitals. On the other hand they are also open to patients who are referred by local physicians in consultation. The general routine consists of complete physical examinations with pelvimitry, Wassermann and vaginal smear. Every attempt is made to stress the necessity of medical care at delivery, and many patients are thus referred to physicians who otherwise would not consider it essential. Maternal Hygiene is stressed, and these clinic visits, together with the Nursing field visit, set the stage as it were, for an uneventful, clean delivery.

One of the most convincing results of this service, is the increased attendance in the outlying counties, with not a great increase in the field load of the nurse. Further they have found that it is far easier to complete their maternity care if they can get a patient to come into a clinic to have a physician reiterate and back their teaching with concrete care. It teaches the patient the value of measurements, and introduces a pelvimeter into areas wherein it was unknown. It backs the efforts of any practicing physician in the area who might be ambitious enough to give adequate care. On the other hand no attempt has ever been made to belittle any physician regardless of his teaching. Should such an occasion arise, attempts are made to convince the physician of the value of different teaching, but whatever he might tell a patient remains law as far as we are concerned.

Many patients have been thus aided. Abnormalities have been discovered, and treatment arranged through the private physician. Barriers have been broken down, and from month to month we saw less restraint on the part of patients to be completely examined. Many very interesting stories could be told of these clinics. Mothers have presented themselves, self-referred, after a life of six and seven pregnancies, unattended medically. They often state that for years they have been going through pregnancy, with the dread of something being wrong. Not having had the financial means to enlist the services of a physician, they went on and took their own chances. These are the most cooperative of all patients. It is remarkable

how interested they are to have a complete examination and with what complete consent they submit to antepartum care. In one of the clinics in the Cookson Hills, I saw one little girl wade the Illinois river last summer to get to the clinic site. She did it all summer because it saved her ten miles going the way of the bridge. To my horror this winter, on one of those cold, bleak, rainy days, she presented herself. On questioning, she announced that a friend had agreed to paddle her across the river in a flat bottomed boat for a small sum, and if it were possible, she would like to get back as soon as possible because he was waiting to paddle her across to her home. Here the value of prenatal care had been brought home with the optimum success.

In Cherokee county, a different facility was organized. Here, in addition to the clinics outlined, a larger staff was available (five nurses) and nurse attendance was offered at time of delivery. This delivery service was available to any patient in Cherokee county who was delivered by a physician who, in turn, was in good standing with the State and County Medical Society. Here, even further, attempts were made to continue care through the whole problem of Maternity Care. Here, further, there was available a means to keep in close contact with patient and physician so that when referrals were made to physicians, he gave adequate prenatal and postpartum care. This one important phase of the program helped to make it a success: Nurses in this county were not confronted with the disappointment, in referring a patient after teaching prenatal care, of having the physician tell her to call him when the baby was on its way and be sure to have the twenty-five dollars. So often, without the support of the practicing physician, nothing constructive can be accomplished in the field.

In managing the delivery service, problems gallore presented themselves. There was the difficulty of a call schedule, and difficulty in not overworking any one nurse beyond her ability. There was the problem of adapting a uniform method of technic for the physicians to use in this area so that equipment could be uniform.

Unlike any other State Health Department Maternity Service I know of, we are using a wet technique for delivery. This is by no means original. It is precisely the technic employed at the Chicago Maternity Center and at DeLee's, without any added equipment or changes so often seen in like serv-

ices. This technic is simple and in teaching such care, it is felt that a physician does not become accustomed to an elaborate sterile linen technic, to feel lost should later he be confronted without the nursing aid. This wet technic employs only water, a few pans found in any home, and a hot stove to produce a clean sterile field. Gloves are boiled in the home as well as instruments. It seems very unadvisable to establish an elaborate sterile linen technic when very few if any rural practitioners have access to an autoclave, or have the time or help to prepare such supplies. This technic has proved very successful in that we have yet to report a puerperal infection of any importance.

It is agreed that Public Health Nursing, Medical care, teaching of the patient to observe the value and demand such care, and nurse attendance at delivery are all essentials for Maternity care which would lower the mortality rate in a given area. This is all possible when the given patient can afford to buy medical care. However, in this particular district, the economic status is such that half of the pregnant mothers are unable to afford such service even if they desire same. Realizing such a status in Northeastern Oklahoma, \$5,000 was set aside to purchase this care for Indigent patients. Indigency was determined by the patient's statement together with the investigation of a trained Medical Social Welfare Worker, (allotted the program by the Child Health Department), and the statement by the private physician. This was afforded those eligible, and the private physicians received fees in direct proportion to the amount of care given the patient. Twenty-five dollars was the top fee for care prior to the fifth month, \$20.00 after the fifth month and prior to the seventh month, \$17.50 the last two months, and \$15.00 for delivery. These fees included a post partum examination. The patient had sole right to choose her physician, and no attempt has even been made to recommend. With these funds available, that group who needed Maternity care foremost have been cared for.

In addition to all of the mentioned facts concerning the service, consultation is offered any physician in the five counties at any period during a given pregnancy. Intrapartum help is available. This renders a rural physician a service at a time when it is most needed.

In establishing such a service, in conjunction with a Public Health Agency, there are

two important aspects to consider. This is, in short, specialized service versus generalized service. In a pure, unprejudiced view, I think it well to consider the value of each. This is pertinent to the program described, because of the fact that in our limited experience, we have tried both methods of management. I do not feel that there is any other method to compare with a specialized service from the pure standpoint of the thoroughness of a Maternity program in a given area, nurses well trained in Maternity can concentrate on the one phase, unhampered by the daily distractions of a generalized program. Their interest is mirrored in the quality of their work, the enthusiasm and thoroughness of the patient contact, the willingness to accept delivery call, the interest shown, and the freedom from contact with infectious and contagious diseases. Four well trained nurses could work with minimum supervision, and the irregularities attenuating this type of service would not disrupt the daily routine of a generalized program. This was our experience.


The generalized program, on the other hand, affords a balanced Public Health Program. The quality of the work done in Maternity is in direct proportion to the disposition of the nurse. The quality of the service in general, will vary with the amount of extraneous work a given nurse might be called upon to perform in a given area. Delivery call with a few nurses on the staff as we have, oftentimes disrupts clinic schedules regardless of how well a nurse might plan her work in advance. She becomes acquainted with a family as a whole, it is true, but she cannot possibly attain the home visit number required together with the other phases of her program and attain a high degree of quality. Again, in an active Maternity program wherein post partum calls are to be made promptly, one or the other part of her work will suffer. A generalized program still remains ideal, in an utopian sense. It is necessary if, from the standpoint of actual expense, we are to utilize the services of Public Health nurses to develop Maternity care as we have shown. The one great fact which always determines the value of a service rests with the individual nurse. If we were fortunate enough to obtain women who were proficient in Public Health, and on the

other hand were trained sufficiently in Obstetrics and like the art, the problem would be simple. But although a Public Health Certificate may be obtained in nine months, four months in Obstetrics, in a post graduate sense, does not qualify a nurse in obstetrics to the same degree. A good obstetrical nurse is comparatively rarer than a Public Health Nurse and obstetrical nurses if well trained have had little time to develop themselves in the whole Public Health Field. The same is very true for supervision. One can obtain a good obstetrical supervisor, but one cannot make a Public Health Nurse proficient as an obstetrical Supervisor in four months.

The development of this program has been stimulating from every degree. The cooperation from the medical profession has been foremost in its success. During the year 480 mothers were given prenatal care. Many of these registered will deliver later on. Of this number 250 odd have received medical aid at delivery including nurse attendance. Approximately 50 per cent of all patients carried were declared indigent and from all standpoints would have been without medical care other than that given at the prenatal clinics. These figures apply only to Cherokee County.

There was one maternal death which much to our disappointment, occurred at the eleventh month of the service. This patient, a sixteen year old primipara, was unknown to our records. She developed eclampsia the morning she went into labor, and since the husband was unfamiliar with the aid offered, he was ignorant of any source of help. After two attempts to arouse the interest of physicians in this county and in an adjoining county, and have been refused because of lack of funds, a sympathetic physician was contacted. He arrived after the patient had had eight hours of eclamptic convulsions. She was hospitalized and died the next day of pulmonary edema and the usual sequale of severe untreated eclampsia.

This one case serves as an example for the need of further education of rural women; it further stresses the need for care in an indigent group which are largely responsible for the abnormal maternal mortality in rural areas.



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EDITORIALS

DEFENSE, DISEASE, DESTINY

Every citizen of the United States who loves his country and his present way of life should be in favor of defense. Everyone in favor of defense should know that the doctor is indispensable in defensive or offensive warfare. The proposed five year program under the Selective Service Act will place a severe strain upon the medical profession. While we are meeting the medical demands of a massive national defense program, we must not leave the civilian population defenseless against disease.

It is estimated that 8,000 medical offices will be needed for each of the proposed five year training periods. These must be taken from civilian practice. The licensure records show that for the year 1940 only 6,043 physicians were added to the long list of licensed physicians. Medical schools are running full capacity and under present conditions it is difficult, if not impossible, to increase the number of medical students without lowering standards.

Unfortunately the Selective Service Act provides no exemption for medical students, interns, faculty members or staff members in teaching hospitals. Without delay, the Director of the Selective Service Program should be empowered to provide exemption for members of these groups, particularly for medical students and interns. In the defense program, medical students and interns are more important than workers in munition plants. They are working over-time without pay, and yet without agitation, strikes or sabotage. Certainly the Government will see that medical students are permitted to go on "singing at their grinding." If we go to war they will be needed. Physical power at its peak may be laid low by its ancient foe, the microbe, if the latter is not foiled by "eternal vigilance." History shows that where medicine fails, gunpowder is impotent, armies parade in vain, destiny dines with disease, disaster and death become inevitable.

Often in the past, pestilential infections have changed the course of history because of insufficient medical knowledge and inadequate methods of control. In the future, failure of control must be attributed to insufficient Governmental support of medical education, lack of professional recognition, inadequate provisions for military and civilian medical service, and bureaucratic domination, where individual initiative and freedom of action have already proved to be effective.

THE PETROLEUM INDUSTRY AND INHALATION GAS HAZARDS

Petroleum is composed of hydrocarbons ranging from $C H^4$ to $C^{30} H^{62}$, and these hydrocarbons may, through vaporization, blend with air as does the vapor from water. In this way inhalation hazards arise.

It should be remembered that natural gas is nontoxic and causes asphyxia only through the reduction of oxygen by extreme dilution of air. The following exceptions should be mentioned: Natural gas from a few isolated fields where the crude oil has a high sulphur content is highly toxic because of hydrogen sulphide. The petroleum hydrocarbons commonly encountered in the oil fields and refineries are simple nontoxic asphyxiants. Asphyxiation is most likely to occur while employes are cleaning storage tanks or tank cars. In the refineries there are many places where similar hazards may occur, however, through improved machinery and the education of employes, refinery hazards have been materially reduced.

If asphyxiation occurs the victim is usually dead or resuscitated before the physician arrives. Educated employes, often trained to work in crews, will see that those asphyxiated are immediately brought to fresh air and that artificial respiration is instituted. Often oxygen or the usual mixture of oxygen and carbondioxide is given. If resuscitation is successful, there should be no permanent evil effects. With few exceptions, this is true, even though asphyxiation may be due to the toxic asphyxiants, carbon monoxide, or hydrogen sulphide. However the employe's psychological pattern is often influenced by the shocking experience of having been rendered unconscious and the fear of permanent ill-effects, plus the possibility of compensation. In the psychologically unstable, or the unscrupulous individual, there is danger of a mental concept of disability which is hard to erase. As a result, the physician is often faced with the difficult task of determining whether or not the employe who has been overcome by gas has suffered any disabling pathological effects. With rare exceptions, it is safe to answer in the negative.

In attempting to determine the merits of any given case, it is well to bear in mind the fact that pre-existing chronic conditions, especially cardiorespiratory affections, may lead to confusion, particularly in those who

are consciously or unconsciously malingering. The following conditions may call for consideration:

1. Chronic sinusitis is common among those who are quite able to carry on their daily routine work and might readily be considered a result of alleged gassing and the consequent irritation of the upper respiratory tract.
2. Chronic non-tuberculous pulmonary infections, giving rise to bronchitis, bronchial asthma, emphysema or some combination of these with varying degrees of bronchiectasis, are frequently present without materially impairing earning capacity.
3. Slightly active, latent or arrested pulmonary tuberculosis may be present, though not obviously impairing the individual's capacity for work.
4. Thickened and adherent pleura and pleuro-diaphragmatic adhesions with limitations of diaphragmatic excursion often may pass undiscovered until a fluoroscopic examination or an x-ray picture of the chest reveals their presence.
5. Chronic heart lesions, especially those involving only the myocardium, may be present for years before they are discovered.

The usual examination at the time of employment, to determine the employe's fitness for work, may not be sufficiently thorough and complete to disclose the above pathological conditions, while examinations to determine the merits of a claimant's plea for compensation often are made by specialists who are inclined to employ all the accessory methods, such as the x-ray and other laboratory tests. Knowing that he has to make a written report which will be used as evidence in the case and that he may be placed on the stand as an expert witness, the physician who is employed to make such an examination is eager to have at his command all available knowledge.

If, in the course of examination to determine the presence or absence of disability, one or more of the pathological conditions mentioned above should be discovered, the physician may find proper appraisal difficult. If he is not familiar with the results of exposure to simple asphyxiants, to toxic non-irritant asphyxiants, and if he is not thoroughly grounded in the principles of pulmonary pathology, he may be led to base spurious symptoms upon the presence of pathology which has no relation to the alleged injury, or he may elicit the symptoms and physical

signs of one of the above described conditions and erroneously attribute them to asphyxia or gas poisoning.

The claimant may decline to return to work because of alleged headache, weakness, burning in his lungs, shortness of breath, palpitation of the heart and a feeling of oppression or pain in his chest. This seems to make up the popular syndrome for those who have been gassed in connection with the petroleum industry. By the time the physicians representing the insurance carrier and the industrial commission have completed their investigations, the claimant may have acquired an exaggerated idea of the importance of his case and he is prone to perpetuate his symptoms. Under such circumstances, it is well to bear in mind the fact that the gases considered in this chapter, with the exception of hydrogen sulphide, are non-irritating or slightly irritating asphyxiants and, with rare exceptions, do no permanent damage to the respiratory system, and that the pathological conditions mentioned above are common in individuals who are able to work and often are overlooked in the routine examination of employes but discovered in the more searching diagnostic studies occasioned by claims for compensation.

WAR AND TUBERCULOSIS

In the February Journal we advocated routine x-rays of the chest for the discovery of tuberculosis in the draftees as they are called into federal service. It was pointed out that every case of service connected pulmonary tuberculosis following the first World War has cost the United States Government approximately \$10,000. The following quotation from the American Review of Tuberculosis (1) affords a striking comparison of costs and justifies our application of the old adage "Pennywise and pound foolish."

"The New Hampshire Tuberculosis Association furnished the necessary personnel for taking medical histories and X-rays to examine one regiment of the New Hampshire National Guard when the members of that regiment were called into federal service.

"Out of 1,552 officers and enlisted men, chest X-ray films revealed 7 cases of parenchymal tuberculosis, all minimal. This is an incidence of less than 0.5 per cent, or 4.5 per thousand. The total cost of finding these 7 cases was \$2,794.35 or \$1.80 per man examined, and about \$400 per case found."

(1) Amer. Rev. of Tb., Feb., 1941, Vol. XLIII, No. 2.

• THE PRESIDENT'S PAGE •



In 1759, seventeen years before the signing of the Declaration of Independence, the Presbyterian Ministers of the Colonies established a Benevolent Fund for enjoyment in their declining years.

In Oklahoma there are doctors who today are in need of financial aid and who, because of their unselfish lives, must now look to others for assistance. Could this not be an activity of their State Medical Association? Might it not be possible to set aside a certain per centage of each member's dues for future assistance to those members who could qualify under rules established to govern the operation of such an endowment? There can be no doubt of the need for such assistance, particularly in view of correspondence received and the future aspects for the practice of medicine. Men and women who devote their lives to practicing the Golden Rule should never be forgotten and should know the necessities of life will always be attainable.

A preliminary investigation has disclosed that eleven State Medical Associations are operating such funds successfully. The Medical Benevolence Funds of Pennsylvania distributed \$9,135 during the year ending August 1936. In New Jersey, the Women's Auxiliary has as one of its major activities the Society for the Relief of Widows and Orphans of Medical Men and for the year 1934 paid out \$5,496. As president of your Association, I would appreciate an expression from as many members as possible on the subject.

Today many American People look to either state or federal governments for assistance in their declining years after having lived a life of "keeping up with the Joneses" and never a thought for the future.

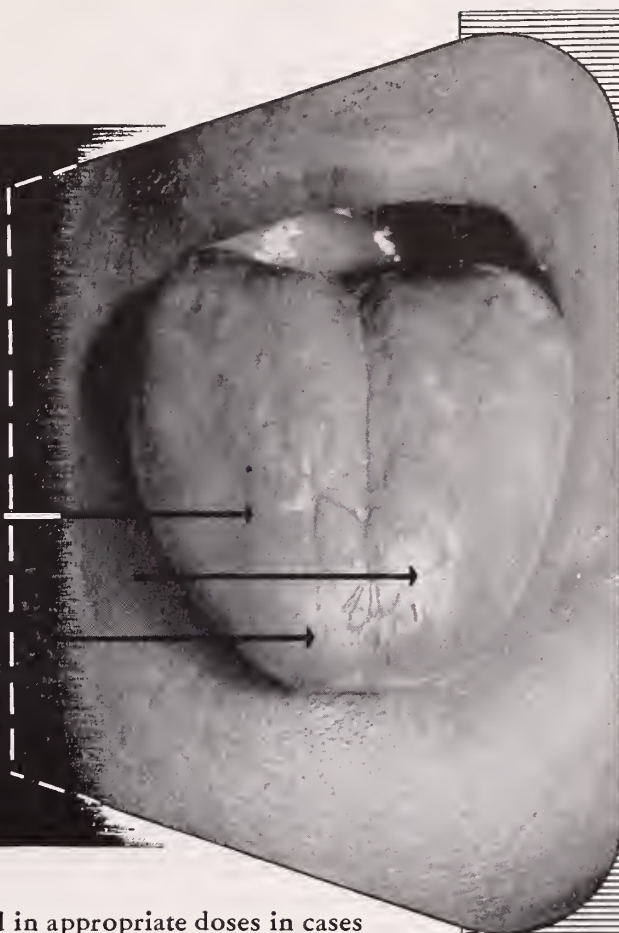
Let us not look to Uncle Sam but rather let us "Secure Our Own Security."

Henry H. Turner
President.



Nicotinic Acid^(UPJOHN)

The glossitis of pellagra is only one of the evidences of nicotinic acid deficiency, but is one which is quite commonly present; characteristically, the tongue is beefy red, the mucous membrane smooth and usually dry.



The administration of nicotinic acid in appropriate doses in cases of pellagra leads to the clearing of alimentary lesions and symptoms, including the typical glossitis, to the disappearance of dermal lesions characteristic of the disease, and to profound improvement in the mental symptoms when the latter are the result of inadequate intake of nicotinic acid.

Pellagra, however, is frequently accompanied by evidences of deficiencies of other factors of the vitamin B complex, such as polyneuritis (a manifestation of vitamin B₁ deficiency). In the diets of such patients it may be necessary to insure the presence of foods rich in the vitamin B complex, or to administer—concurrently with the nicotinic acid—thiamine hydrochloride, riboflavin, and, in some instances, pyridoxine hydrochloride.

Nicotinic acid is pyridine-3-carboxylic acid— $C_6H_5O_2N$. It is recognized as a specific in the treatment of the disease of dogs known as blacktongue and in the treatment of human pellagra.



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ASSOCIATION ACTIVITIES

Plans for State Cancer Control Program Are Discussed

At a meeting of the Executive Committee of the Oklahoma Division of the American Society for the Control of Cancer February 26, members discussed the advisability of inviting a representative of the national office to speak before lay audiences in the secondary schools and state colleges in April. The speaker would discuss the educational phase of cancer control rather than the scientific or clinical and is highly recommended by national officers for his ability to discuss cancer control from this standpoint.

If the speaker is able to lecture in Oklahoma at that time, school authorities and members of the county medical societies will be contacted concerning the program.

As approximately 800 post cards have been received from doctors all over the state stating their interest in a compact, 300-page book on cancer to be furnished free by the State Cancer Committee if a sufficient number of doctors were interested, members present agreed that copies of the book should be ordered in the near future. Dr. Gregory E. Stanbro, chairman, was left in charge of details. Each doctor who wrote in for the book will receive a copy and an additional supply will be kept on hand for those who write in later expressing a desire for the book.

Mrs. L. D. McClatchey, Bartlesville, was unanimously approved as State Commander of the Women's Field Army. As the nine district commanders have automatically been named vice commanders upon taking the pledge with Mrs. McClatchey, Mrs. E. L. Hnrlock, Copan, former vice commander, was named deputy commander.

Ten members of the Osage County Medical society met Feb. 10 at the Duncan hotel for an evening of medical discussion. Speakers and topics discussed were: "Palliative and Operative Care of Urethrocele, Cystocele and Uterine Prolapse," by Dr. A. W. Pigford, Tulsa, and "Four Outstanding Symptoms of Rectal Conditions," by Dr. Victor K. Allen, also of Tulsa.

Moving pictures on "A Method of Hemorrhoidectomy and the Use of Extra-Fine Catgut in Surgery" were shown.

A symposium on anemias was held by members of the Oklahoma County Medical society Feb. 25 at the Medical School auditorium. Talks which were made are: "The Laboratory Diagnosis," Dr. Hugh Jeter (20 minutes) and "Therapy," Dr. Wann Langston (20 minutes). The discussants were Dr. Wm. H. Bailey and Dr. Harry A. Daniels whose discussions were limited to seven minutes each. The next meeting will be March 25.

Army Inductions Result in Openings

Since the induction of the reserve officers into the regular Army, many splendid openings for physicians have developed within the state.

Anyone desiring to inquire concerning new locations, should correspond with the Executive Office of the Association at 210 Plaza Court.

Six members of the Stephens County Medical society met February 25 at the New Duncan Hotel. On the evening's program were: Dr. Joseph W. Kelso, Oklahoma City, who spoke on "Functional Bleeding," and Dr. C. P. Bondurant, Oklahoma City, whose subject was "General Dermatological Conditions."

Outstanding Speakers Invited To Annual Meet Accept

The Scientific Committee of the Association has completed arrangements with six outstanding physicians and surgeons for appearance in both the general scientific sessions and the scientific sections at the coming Annual Meeting, May 19, 20 and 21, Dr. C. R. Rountree, chairman, Oklahoma City, has announced.

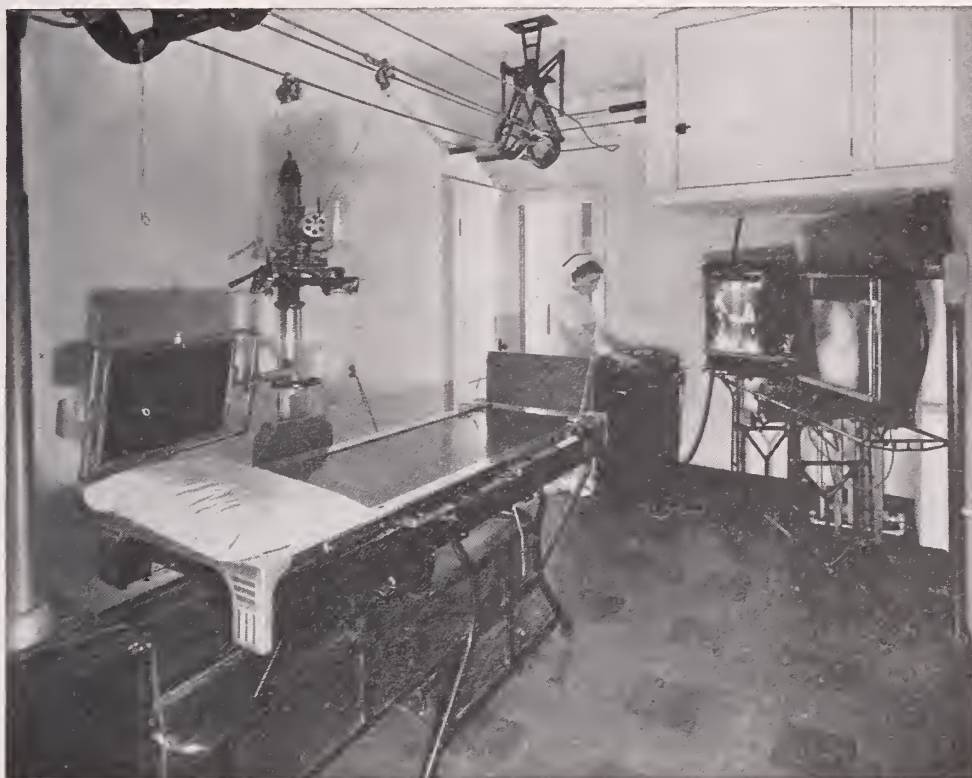
Since the publication of the February issue of The Journal, Dr. Earl Garside, Chicago, Ill., has accepted the invitation to represent the Section on General Surgery. Other distinguished guests and the scientific sections which they will represent are: Dr. Ralph Pemberton, Philadelphia, the Section on General Medicine; Dr. J. R. Reinberger, Memphis, Tenn., the Section on Obstetrics and Pediatrics; Dr. A. N. Arneson, St. Louis, Mo., the Section on Dermatology and Radiology; Dr. Meyer Weiner, St. Louis, Mo., the Section on Eye, Ear, Nose and Throat; and Dr. Lauren H. Smith, Philadelphia, Pa., the Section on Neurology, Psychiatry and Endocrinology.

Delegates To Annual Meeting In May Are Announced

In compliance with the new by-laws of the Association, the complete list of the delegates to the 1941 Annual Meeting May 19, 20 and 21 will appear in the April Journal.

The following delegates have been reported as of March 5 and all counties who are not represented should immediately elect their delegate and forward their names to the Executive Office of the Association.

County	Delegate
Alfalfa	H. E. Huston, Cherokee
Atoka-Coal	T. H. Briggs, Atoka
	J. D. Clark, Coalgate
Beckham	H. K. Speed, Sayre
Caddo	
Canadian	J. T. Phelps, El Reno
Carter	Walter Hardy, Ardmore
	F. W. Boadway, Ardmore
Cherokee	
Choctaw	E. A. Johnson, Hngo
Cleveland	
Comanche	
Cotton	
Craig	Felix M. Adams, Vinita
Creek	Paul Mote, Sapulpa
	E. W. King, Bristow
Custer	Ross Deputy, Clinton
	J. G. Woods, Weatherford
Garfield	O. R. Gregg, Enid
	W. P. Neilson, Enid
Garvin	G. L. Johnson, Pauls Valley
Grady	J. T. Renegar, Tuttle
Grant	E. E. Lawson, Medford
Harmon	L. E. Hollis, Hollis
Hughes	W. E. Floyd, Holdenville
Jackson	J. B. Hicks, Altus
Jefferson	J. I. Hollingsworth, Waurika
Kay	C. W. Arrendell, Ponca City
	Dewey Mathews, Tonkawa
Kingfisher	
Kiowa	B. H. Watkins, Hobart
Le Flore	F. P. Baker, Tahleah
Lincoln	
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Murray	F. E. Sadler, Sulphur
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	J. H. White, Muskogee
Noble	C. H. Cooke, Perry
	T. F. Renfro, Billings
Okfuskee	A. S. Melton, Okemah
Oklahoma	C. R. Rountree, Oklahoma City
	W. F. Keller, Oklahoma City
	W. W. Rucks, Jr., Oklahoma City
	John F. Burton, Oklahoma City
	Walker Moreledge, Oklahoma City
	L. J. Moorman, Oklahoma City
	Ben H. Nicholson, Oklahoma City
	C. M. Pounders, Oklahoma City
	D. H. O'Donoghue, Oklahoma City
	George H. Garrison, Oklahoma City
	Wann Langston, Oklahoma City
	W. E. Eastland, Oklahoma City
Okmulgee	J. C. Matheney, Okmulgee
	J. G. Edwards, Okmulgee
Osage	C. K. Logan, Hominy
Ottawa	
Pawnee	
Payne	M. L. Peter, Stillwater
	R. E. Leatherock, Cushing
Pittsburg	Elbert Shuller, McAlester
	T. H. McCarley, McAlester
Pontotoc	Ollie McBride, Ada
	M. M. Webster, Ada
Pottawatomie	G. S. Baxter, Shawnee
	W. M. Gallaher, Shawnee
Pushmataha	E. W. Connally, Antlers
Rogers	P. S. Anderson, Claremore
Seminole	A. B. Stephens, Seminole

Stephens	C. N. Talley, Marlow
Texas	Johnny A. Blue, Guymon
Tillman	O. G. Bacon, Frederick
Tulsa	W. S. Larrabee, Tulsa
	M. J. Searle, Tulsa
	George Osborn, Tulsa
	C. H. Haralson, Tulsa
	R. M. Shepard, Tulsa
	W. Albert Cook, Tulsa
	R. C. Pigford, Tulsa
Wagoner	J. H. Plunkett, Wagoner
Washington-Nowata	K. D. Davis, Nowata
	O. I. Green, Bartlesville
	H. G. Crawford, Bartlesville
Washita	A. H. Bungardt, Cordell
Woods	Dan B. Ensor, Hopeton
Woodward	Dwight Pierson, Buffalo
	John L. Day, Supply
	M. H. Newman, Shattuck
	Duke Vincent, Vici

Thirty-one physicians and five dentists and several ladies were present at a dinner meeting of the Woodward County Medical society Feb. 13 at Shattuck. Speakers were Dr. W. O. Murphy, Amarillo, Texas, who talked on the anatomy and physiology of squint eye and Dr. C. E. Williams, Woodward, who discussed the proper treatment of squint eye. Speaker for the meeting March 3 is Dr. Frank King who will talk on pediatrics.

Twelve members of the Creek County Medical society met Feb. 11 at Sapulpa to hear Dr. Wade Sisler, Tulsa, give a lecture on "Indications for Operative Treatment of Fracture." The doctors of this society will again meet on the 11th in March. The speaker for the March meeting has not yet been announced.



RIGHT: Hess Infant incubator. ABOVE: Hess incubator with Hess infant oxygen therapy unit in position for oxygen administration.

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ment.

100% benefited

**From tests reported by Laryngoscope,
Feb. 1935. Vol. XLV, No. 2, 149-154*

NEWS FROM THE COUNTY SOCIETIES

Nine members of the Cherokee County Medical society met at dinner for their last meeting in January and made plans for the joint meeting of the Cherokee and Muskogee societies February 17 at which the Cherokee society members presented the program. At the meeting in January, the program included: "Common Rectal Disorders," Dr. V. K. Allen, Tulsa; "Pathological Report of a Case of Quadruple Ureters in a Twelve-Year-Old Child," Dr. L. Lowbeer, also of Tulsa; and a presentation of lantern slides illustrating the talks.

The next meeting will be March 5. Films will be shown and the subject to be discussed is "Hernioplasty and Anatomy of the Male Generative Tract."

Eight doctors of the Garvin county society met at 7 o'clock Feb. 18 in the County courtroom at Pauls Valley in conjunction with the lecture on Post-graduate Pediatrics given by Dr. James G. Hughes, instructor. The subject was "Juvenile Syphilis and Tuberculosis."

The next meeting will be March 19 at 7:30 p. m. at the Pauls Valley chamber of commerce.

Dr. Phil McNeill, Oklahoma City, was invited as guest speaker at the meeting of members of the Craig County Medical Society. The topic he selected for his address is: "Early Diagnosis of Pulmonary Tuberculosis."

Eighteen members of the Pottawatomie County Medical society met February 15 at the Aldridge hotel in Shawnee to hear Dr. A. C. McFarling, Shawnee give a discussion on "Interstitial Keratitis." Afterwards, Dr. Ralph M. Alley, superintendent of the Shawnee Indian Sanatorium, was elected to regular membership after attending one year as an associate.

The society met March 15 at the same place. The speaker was Dr. George S. Baxter, Shawnee.

Discussion concerning sanity hearings begun by Dr. Chesnut, Miami, took up the first part of the meeting when 15 members of the Ottawa County Medical society convened Feb. 20. The speaker was Dr. L. F. Heimburger, dermatologist of Springfield, Mo., who gave an interesting discussion on skin diseases and followed this lecture by some personal remarks about his experiences in China.

Motion pictures from the Lederle company on Parkinson's disease and the treatment of Bellabulgar, were shown at a meeting of the members of the Logan County Medical society February 18 at the Cimmaron Valley Wesley hospital. Twelve doctors were present. A business session was also held and the members planned a meeting March 18. At their meeting April 22, a motion picture on Pernicious Anemia will be shown.

Twenty members of the Tri-County Medical society, composed of Grady, Stephens and Caddo counties, met for their February session at Chickasha. Speakers and their lectures included: "Management of Acute Urinary Retention," Dr. O. S. Pyle, Chickasha; "Prostatic Resection," Dr. J. M. Taylor, Oklahoma City, "The Selective Service Act," Dr. Stanley F. Wildman; and "Discussion of Urological Problems," Dr. C. B. Taylor, and Doctor Wildman, both of Oklahoma City.

Other entertainment consisted of a dinner and bridge for the wives of the attending doctors at the home of Mrs. L. E. Woods. The next meeting will be March 20 at Chickasha and the Stephens County group will provide the program.

Dr. A. S. Neal, Cordell, was elected president at a meeting of the members of the Washita County Medical County Society February 22 at Cordell.

Other officers elected are: Dr. E. S. Weaver, Cordell, vice president; Dr. James F. McMurtry, Sentinel, secretary-treasurer; and Dr. A. H. Bungardt, Cordell, delegate.

Twelve members met at Harry's Cafe in Clinton for the February meeting of the Custer County Medical society. The program included: Dr. Louis Kennedy, Western Oklahoma Charity Hospital, lectured on "Fractures of the Hip," and a discussion of this lecture by Dr. C. C. Engleman, also from the Western Oklahoma Charity Hospital, followed.

Afterwards, motion pictures on intravenous anesthesia were presented.

Members of the Washington-Nowata County Medical society met February 12 for their first meeting of the month. "Diagnosis and Treatment of Chronic Urinary Tract Infections" was given by Dr. R. C. Gentry, Bartlesville, and discussed by Dr. M. B. Scott, Delaware, and Dr. S. G. Weber, Bartlesville, while Dr. F. C. Rewerts, Bartlesville, talked on "Treatment of the Ambulatory Arthritic Patient" and this talk was discussed by Dr. J. P. Torrey, Bartlesville, and Dr. S. P. Roberts, Nowata.

A society and staff meeting will be held February 26.

A symposium of peptic ulcers and a round table discussion featured the meeting of the members of the Pittsburgh County Medical society Feb. 28 at the Albert Pike Hospital. The speakers for the symposium were: Dr. T. H. McCarley, Dr. C. E. Lively and Dr. Will C. Wait, all of McAlester.

Dr. Robert U. Patterson, Dean of the University of Oklahoma School of Medicine, and Dr. Henry Turner, Oklahoma City, President of the Oklahoma State Medical Association, will be special guests at the next meeting March 21 also at the Albert Pike Hospital. Members of the society are now planning for the Southeastern Medical Association meeting April 10 in McAlester. Dr. Wendell Long, Oklahoma City, will be one of the guest speakers.

Eighteen members of the McClain and Cleveland County Medical societies held a joint meeting February 19 at the McCurdy Clinic in Purell. The meet was an informal "get together" in order for members of the two societies to become better acquainted.

Speakers were Senator J. C. Nance and Representatives Purman Wilson who discussed bills introduced in this session of the state legislature. Dr. D. G. Willard, president of the Cleveland County Medical society, presided at the smoker.

Opportunities For Practice

An excellent opportunity for practice is awaiting a young physician in Beggs, Oklahoma, a town of 1500 population in Okmulgee county. Anyone interested in locating there and building up a good practice should communicate with Postmaster W. A. Jenkins, Beggs, or direct his inquiries to this office, 210 Plaza Court, Oklahoma City.



Fig. 112 — Bromide Eruption

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An unusual feature of the book is the authors' approach to the study of diseases of the skin. Rather than resting content merely with morphologic manifestations, they correlate descriptions and concepts of disorders of the skin with general medicine and biology, asking, "What is going on here?", not, "What name shall I give it?"

What Reviewers Say

"This book is probably the most complete textbook on the diseases of the skin that has ever been written." JOURNAL OF THE MEDICAL SOCIETY OF NEW JERSEY.

"... a masterpiece of dermatological literature." MAINE MEDICAL ASSOCIATION JOURNAL.

"It is a refreshing novelty to find a textbook in which the authors unhesitatingly recommend a treatment they have found efficacious or condemn methods they have found valueless." TRI-STATE MEDICAL JOURNAL.

"It is to dermatology what the unabridged dictionary is to the English language." NEW YORK STATE JOURNAL OF MEDICINE.

"The volume can be called, without exaggeration, a dermatological encyclopedia." RHODE ISLAND MEDICAL JOURNAL.

"The text is plain, explicit, ample and appropriate. The illustrations are remarkable." MINNESOTA MEDICAL JOURNAL.

"The sections on the disorders of the hair and nails alone make the possession of the book desirable." MEDICAL JOURNAL OF AUSTRALIA.

"This excellent book might easily be referred to as 'An Atlas of Skin Diseases' because of its numerous illustrations." PENNSYLVANIA MEDICAL JOURNAL.

"The commanding place of this work among the standard texts in English on skin diseases is made even more secure by this fine edition." SOUTHERN MEDICAL JOURNAL.

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Contract With L & L Indemnity Company Is Completed

The Tulsa County Malpractice Insurance Committee has completed its contract with the London and Lancashire Indemnity Company which will take over the master policy of the Malpractice Insurance previously handled by the Houston Fire and Casualty Company. The Houston Fire and Casualty Company is withdrawing from the indemnity field in order to devote its entire efforts toward fire insurance policies on United States Government projects. The Oklahoma law permits a company to write either fire or casualty insurance but not both.

The London and Lancashire Indemnity Company of America is an American Insurance Company, organized in 1915 under the laws of the State of New York. This company has total admitted assets of \$6,442,651.80 of which \$1,311,171.45 is cash and \$3,191,183.96 is invested in Government, Public Utility, State, Municipal and other accepted stocks and bonds. Gross premiums earned in 1939 totaled \$4,969,753.00.

Coverage with the London and Lancashire Company will be available only to physicians and surgeons who are members of their local county medical society. The following rates are quoted for one year's insurance.

General Medicine	\$27.50
Surgery	33.50
Radium and X-Ray	41.50

(25 per cent additional charge will be made for each professional assistant, to indemnify the doctor for any liability he may have for the acts of the assistant; it being understood that the assistant is not covered.)

The rates as above quoted are for limits of \$10,000/\$30,000. For increased limits, we list below the different percentage charges:

\$15,000/\$45,000—	40% additional of basic premium
\$20,000/\$60,000—	50% additional of basic premium
\$25,000/\$75,000—	100% additional of basic premium
\$30,000/\$90,000—	120% additional of basic premium

It is understood further and agreed that all certificates are to be issued for a period of one year. The above rates are quotations for one year's insurance.

It is understood and agreed that no increase in any of these rates will be made without the approval of the general committee designated above and submission of figures upon which any such proposed increase is based.

Under this plan, the doctors of each county may obtain the insurance from their own local insurance agents. The company is represented in almost every city in the state. Any further questions concerning the insurance may be addressed to the Insurance Committee of the Tulsa County Medical society, the Executive Secretary of the Oklahoma State Medical Association, Voth and Wright, 404 National Bank of Tulsa Building; and Mr. W. M. Eberle of Eberle and Company, general agents for London and Lancashire Indemnity Company, 501 Terminal Building, Oklahoma City.

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|------------------|--------------------------|
| 5. Oregon | 13. Michigan |
| 6. Idaho | 14. Pennsylvania |
| 7. Colorado | 15. District of Columbia |
| 8. Iowa | 16. Indiana |
| 9. Nebraska | 17. Illinois |
| 10. Wisconsin | 18. Kentucky |
| 11. South Dakota | 19. Ohio |
| 12. Minnesota | |

The LeFlore County Auxiliary met Feb. 4, 1941, in the home of Mrs. R. W. Minor, Spiro, Oklahoma. The president, Mrs. Rush Wright, officiated at the meeting attended by eight of the ten members. At the meeting, Mrs. Earl Woodson read a paper, "Feeding the Army," and Mrs. J. J. Hardy told of some of the scientific discoveries of 1940.

Mrs. F. Maxey Cooper presided at the meeting of the Oklahoma County group held February 26 at the Y. W. C. A. in Oklahoma City. Fifty members came for the sewing, business meeting, and luncheon. In view of the present world condition, the members of this group decided to organize a First Aid Unit, work on which will begin in the near future. Instead of entertaining for the doctors on Doctors' day, the auxiliary will send a letter of appreciation to the husbands offering assistance and cooperation in any undertaking of the County Medical society. Mrs. George H. Garrison gave a resume of the meetings on Nutrition recently held in Oklahoma City and stressed the need of education along this line, the lack of which has shown up in the recent draft. The President appointed a nominating committee which is to prepare a new slate of officers for the next meeting. Garments were made for the Red Cross, and scrap books were made for the children at Crippled Childrens' Hospital. A layette shower was held at this meeting, about thirty members bringing garments and the rest donating money. These clothes and the money will be used to complete the layettes for underprivileged babies in Oklahoma City made earlier in the year by the auxiliary. Announcement was made of the prospective visit of our National President, Mrs. V. E. Holcombe, to our city on March 12th. There are 156 active members in the Woman's Auxiliary to the Oklahoma County Medical Society at present.

Mrs. Edward D. Greenberger is President of the Pittsburg County auxiliary which held a meeting February 4th, 1941, in the home of Mrs. Walter J. Dell at McAlester, Oklahoma. There were 13 members present at this meeting, and they continued their sewing on Red Cross layettes. This Unit is finishing up 25 layettes, including 25 dozen diapers, 50 gowns, 50 dresses, 25 sacks, 25 caps, and 50 blankets. They had five meetings in January—the regular meeting and luncheon, three all-day meetings for sewing, and a dinner with the members of the Pittsburg County Medical Society. Dr. Wardell of the University of Oklahoma spoke at the dinner. We are sorry to report that the Pittsburg County auxiliary has lost one of their faithful members in the death of Mrs. J. A. Munn.

Auxiliary News

We are happy to announce that Mrs. V. E. Holcombe, President of the Woman's auxiliary to the American Medical Association, will be in Oklahoma City, Wednesday, March 12th. There will be a meeting and luncheon in her honor held in the Y. W. C. A. Venetian Room at one o'clock. Mrs. W. A. Fowler, President of the Woman's auxiliary to the Oklahoma State Medical Association will be here, as will other State officers and representatives from all county auxiliaries. The following States have been visited by Mrs. Holcombe since she became President, June 13, 1940:

- | | |
|------------------|---------------------|
| 1. Virginia | 3. Washington State |
| 2. West Virginia | 4. Utah |

On February 4th, 1941, the members of the Tulsa County auxiliary held a guest day tea in the home of Mrs. Marvin D. Henley, 2204 East 27th Street, Tulsa, Oklahoma. Mrs. James Stevenson reviewed "Embezzled Heaven" by Franz Wersel for the 41 members and 29 guests who attended. The Woman's Auxiliary to the Tulsa County Medical Society has 136 active members to date.

There are five more organized County auxiliaries in Oklahoma, whose members are doing many worthwhile things and from whom we would like to hear. If news of your group is missing this time, ask your president or your Publicity chairman to send it in for the next edition. The rest of the State is interested in what you are doing.

Confirmed by Clinical Evidence...

Amniotin Relieves Menopausal Symptoms



THE list of papers attesting to the clinical value of Amniotin in alleviating distressing menopausal symptoms is very substantial in number. As early as 1929 Sevringhaus and Evans¹ reported Amniotin to be "of marked value in the relief of the vasomotor phenomena of the menopause."

Indicative of the effectiveness of this endocrine therapy is the recent statement by Novak² that: "Whereas formerly there was much difference of opinion among clinicians as to the efficacy of hormone treatment, opinion is now unanimous that it is of genuine value. In fact, organotherapy for menopausal symptoms is looked

upon as one of the more satisfactory applications of endocrine knowledge in the field of gynecological practice."

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¹ Sevringhaus, E. L., and Evans, J. S.: *Am. J. M. Sc.* 178:638, Nov. 1929.

² Novak, Emil: *Surg. Gynec. & Obst.* 70:124, Jan. 1940.

*For literature address the Professional Service Department,
E. R. Squibb & Sons, 745 Fifth Avenue, New York, N. Y.*

Amniotin

A SQUIBB PREPARATION OF ESTROGENIC SUBSTANCES
OBTAINED FROM THE URINE OF PREGNANT MARES

General Rob't U. Patterson, Dean of the School of Medicine and Superintendent of the Hospitals, attended the meeting of The Congress on Medical Education and Licensure held in Chicago on February 17 and 18, 1941.

One of the most serious matters that came before the Congress was the importance of deferring medical students so that they will be allowed to finish their undergraduate training. This is absolutely necessary in the interests of both the civil and military population.

The Congress further stressed the importance of permitting students after graduating in medicine to be deferred for one or two years while taking their necessary hospital training. So far there is no guarantee that the Local Board of the Selective Service Draft will recognize that the medical student and young physician are necessary men and should be deferred for military service until their education is complete. An excellent editorial on this subject appeared in the Journal of the American Medical Association, page 706, February 22, 1941.

On Monday evening, February 24th, Dr. Charles Lincoln White, Associate Professor of Dental Surgery, passed away at his home after a short illness. Doctor White had been connected with the Faculty of the School of Medicine since 1917, and had been Associate Professor of Dental Surgery and Head of the Department of Dental Surgery since 1934.

On February 22nd, the Oklahoma City Internists' Association held their Washington's Birthday Clinic in the auditorium of the School of Medicine. The following program was given:

- 9:00-10:00 A. M.—Motion Pictures on Anemia
 10:00-10:30 A. M.—Coronary Disease, Dr. F. Redding Hood.
 10:30-11:00 A. M.—Gastro-Intestinal Allergy, Dr. Wayne Hull.
 11:00-11:30 A. M.—Lead Poisoning, Dr. Ben Nicholson.
 11:30-12:00 Noon—Aene of Puberty, Dr. Henry Turner.
 Dr. Onis Hazel.
 12:45- 2:00 P. M.—Lunch—Forum, Dr. George La Motte, Dr. Wann Langston.

2:00- 2:30 P. M.—Bedside Laboratory Procedures, Dr. Floyd Keller.

2:30- 3:00 P. M.—Low Grade Fevers of Childhood, Dr. W. M. Taylor.

3:00- 3:30 P. M.—Kidney Diseases, Dr. C. J. Fishman.

3:30- 4:00 P. M.—Vitamin Deficiencies, Dr. R. Q. Goodwin.

This clinic was well attended.

Dr. Henry Buchanan Fuston (1885-1941)

The medical profession in Oklahoma lost an outstanding member when Dr. Henry Buchanan Fuston, 55, pioneer physician in Bryan county, died February 22 at a hospital in Durant. He was stricken by a heart attack and passed away soon afterwards. His death came as a shock to his many friends throughout the state though his health had been poor the last few months.

Dr. Fuston was born at Smithville, Tenn., Nov. 25, 1885 and in the same city later married Miss Nancy V. Adecock. He was graduated from the Vanderbilt University Medical school at Nashville. With his family, he moved to Blue in Bryan county 25 years ago and settled a little later in Bokchito where since that time he has carried on one of the largest medical practices in that section of the state.

Well known in state medical circles, he served one term as president of the Southeastern Medical society, two terms as president of the Bryan County Medical society and was Bryan County Health Officer for three years. This year Dr. Fuston was elected as delegate to the State Annual Meeting from his county. Recognition in the state first came to him for his work in spinal meningitis cure during the epidemic of 1919.

Funeral services were conducted at the First Christian church in Bokchito on Monday afternoon February 24, with Rev. Cecil A. Denney, Durant, and Rev. M. F. Cottingham, Bokchito, officiating. Interment was in the Highland cemetery.

The immediate survivors are the widow, one son, Ehrlix Fuston, Bokchito; and one daughter, Mrs. Lloyd Randle, Claremore.

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of Acute Anterior*

URETHRITIS

(DUE TO NEISSERIA GONORRHEAE)

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph. Gon. & Ven. Dis., 23, 201 (March) 1939.

*Silver Picrate, is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

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MEDICAL PREPAREDNESS

Details of Army Medical Corps Organization Are Announced

According to an article which appeared recently in the A. M. A. Journal, the groundwork for an efficient Medical Corps in the United States Army was laid the latter part of February when the Adjutant-General presented details for the Medical Corps organization to the Surgeon General and to each corps area and department commander.

Upon reading this plan, every doctor should realize the importance of the questionnaires which were sent out in preparing and maintaining the roster of civilian physicians.

1. The following plan has been approved and will be placed in operation at such time as the War Department may direct.

(a) The American Medical Association will prepare and maintain a roster of civilian physicians, classified as to professional specialties and proficiency, who have agreed to accept commissions in the Army of the United States when needed for immediate active duty during a national emergency.

(b) The Surgeon General will designate one or more medical officers of the Regular Army who will be placed on duty at Headquarters, Sixth Corps Area, as representatives of his office in all matters pertaining to the Medical Corps Reserve and the American Medical Association.

(c) Corps area commanders will report, at times specified by the War Department, the number of Medical Corps Reserve officers under their assignment jurisdiction who are available for active duty.

(d) Vacancies in allotments made to any corps area by the War Department that cannot be filled by the detail of a qualified Reserve officer under the assignment jurisdiction of the corps area commander will be promptly reported to the War Department, which will cause them to be filled from Medical Corps Reserve officers in the Army and Service Assignment group, or by adding these vacancies to the allotment of other corps areas having a surplus.

(e) If no qualified Reserve officer can be found, the Surgeon General will notify his representative at Headquarters, Sixth Corps Area, as to the qualifications desired and the location and grade of the vacancy. The representative will then secure recommendations from the American Medical Association and forward all information to the appropriate corps area commander, notifying the War Department of the action taken. The corps area commander will immediately cause the candidate to be given a physical examination and, if found qualified, will secure from the applicant a properly completed application for commission (W. D., A. G. O. form 170). All papers will then be forwarded to the Adjutant General for final action by means of air mail and "Immediate Action" stationery when necessary.

(f) Corps area commanders are not authorized to grant waivers for physical defects in these instances but may reject a candidate when found physically disqualified, notifying the Adjutant General of the action taken.

(g) On receipt of a properly executed oath of office, the corps area commander will cause orders to be issued placing the appointee on immediate active duty.

(h) No appointments will be made under this authority of applicants over 55 years of age.

(i) The appearance of the candidate before an

examining board as prescribed in AR 140-5 will be waived in these cases.

2. The Surgeon General and corps area and department commanders will complete all arrangements necessary to place the plan in operation without delay when directed by the War Department.

Medical Refresher Courses Offered by Army

A realization of the need of doctors to continue their medical training in the midst of their military duties is seen in a recent memorandum issued by the Adjutant General of the Army, as reported by the Journal of the A. M. A. The memorandum cites an opportunity for Reserve and National Guard Medical Department officers to attend one-month refresher courses either at the Medical Field Service school or general hospitals.

The Adjutant General of the Army has sent the following memorandum to the commanding generals of all armies and the commanding generals of all corps areas:

1. On receipt of individual applications and with the approval of all commanders concerned, Reserve and National Guard Medical Department officers, after approximately six months' duty with its fixed installations, may be afforded an opportunity to attend a one-month refresher course at the Medical Field Service School with a view to subsequent assignment to medical field or tactical units. Subject to the same conditions, Reserve and National Guard Medical Department officers, after approximately six months duty with field or tactical units, may receive a one-month refresher course at certain general hospitals, with subsequent assignment to fixed medical installations.

2. Subject to the approval of all commanders concerned, Medical Department commissioned personnel may be rotated within regimental medical detachments and between regimental medical detachments and medical battalions, squadrons and regiments.

3. However, the procedure authorized in paragraphs 1 and 2 must not interfere with or be detrimental to the balanced training of National Guard units, so prescribed that they may be prepared to take the field on short notice.

Seventeen Doctors Answer Call Of Military Service

Eighteen more doctors in Oklahoma have been called to service in the United States Army since the list was compiled for the February issue of the Journal. These doctors are listed here.

Aisenstadt, E. Albert, Picher, Ft. Sill, Lawton
Bradley, Frank L., Talihina, Ft. Sam Houston, Tex.
Texas

Anderson, Leighton L., Oklahoma City, Ft. Sill, Lawton

Bertram, Harold F., Oklahoma City, Ft. Sill, Lawton

Clark, Ben P., Okeene, Camp Hulen, Texas

Cowart, O. H., Bristow, Ft. Sill, Lawton

Gallaher, Paul C., Shawnee, Ft. Sill, Lawton

Kennedy, V. N., Newkirk, Ft. Sill, Lawton

Kinsinger, Ralph, Blackwell, Ft. Sill, Lawton

Mayfield, Warren T., Norman, Ft. Bliss, Texas

Melinder, Roy J., Claremore, Ft. Sill, Lawton

Mohler, Eldon Clyde, Ponca City, Ft. Sill, Lawton

Prosser, Moorman P., Norman, Ft. Sill, Lawton

Sadler, LeRoy H., Oklahoma City, Ft. Sill, Lawton

Schnitman, Jacob, Gould, Ft. Sill, Lawton

Strader, Simon E., Oklahoma City, Ft. Sam Houston,

Zampetti, Herman A., Drumright, Ft. Sill, Lawton

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BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

I REMEMBER. The Autobiography of Abraham Flexner. Price \$3.75. New York: Simon and Schuster, 1940.

Those of us who take pride in the high position medicine has attained in the field of education, lest we forget, should read **I REMEMBER**.

This is the autobiography of a remarkable man with a revolutionary career in a field which needed more intelligent, intensive and equable cultivation. Abraham Flexner, the sixth of nine children, was born in Louisville, Kentucky, 1866. His childhood was conditioned by a sound heritage which helped to keep him on the level. Though he felt the sting of poverty, his industry and ingenuity surmounted every obstacle.

No doubt young Flexner was influenced by contact with great educators and an atmosphere of scholastic traditions. At the time of his birth, medical and religious education in Louisville, Kentucky, had reached a high mark. Immediately before Flexner's birth such men as Joshua Baker Flint, Samuel D. Gross, Lunsford P. Yandell, John Esten Cooke, Daniel Drake, Austin Flint and others in Louisville, had developed the best medical school west of the Alleghenies. David W. Yandell, son of Lunsford P. Yandell, was his family doctor. Lewis S. McMurtry was his intimate friend. Among his library acquaintances were "scholars of high rank" from the Southern Baptist Theological Seminary, "Dr. John A. Broadus and his associates, Dr. Boyce and Dr. Whitsett." With such an environment, why should not an inspiring youth become interested in education.

You should read the life story, as it unfolds the pattern of American opportunity and accomplishment. Through his efforts our medical schools were made over; our universities changed their educational trends. His influence in this field extended to many other lands. His study of medical schools leading to revolutionary changes in medical education were sponsored by the Carnegie Foundation. Later he worked with the General Education Board of the Rockefeller Foundation. On his recommendation, Mr. Rockefeller, Sr., gave \$50,000,000 for the reorganization of medical education in the United States. An additional sum, approximately half a billion dollars, was made available for the endowment of high-grade medical schools.

Dr. Flexner's Rhodes Lectures at Oxford resulted in a book on universities and led to the establishment of the Institute for Advanced Study at Princeton. He has recently retired from the directorship of this Institute.

The book is full of references of medical interest and alive with significant medical contacts. Read it and learn what, where, and why you are in the field of education.

—L.J.M.

WITH LOVE AND IRONY, By Lin Yutang. Price \$2.00. Illustrated by Kurt Wiese. New York: The John Day Company.

This is an interesting book, rich in the kind of philosophy which should characterize the life of every doctor. The brief introduction by Pearl S. Buck, who had contact with the author in his native land, refers to his personality and the sources of his philosophy in such a way as to hurry the reader on in pursuit of the author's cryptic reflections on the "conflict of ideals and realities" and our attempt to find an equable way of life.

The book is not without a genuine interest for members of the medical profession. The biologist, the psychologist and the psychiatrist should find much food

for thought. With all their knowledge of human nature, few doctors can strike deeper than Lin Yutang, as shown by the following paragraph:

"I agree therefore entirely with General Ho Chien, who once condemned modern school books for making Teddy Bear say this and Br'er Rabbit say that, thus accusing animals of things which they cannot say and making the animals appear as crooked as human beings. All Aesop's Fables are libels on the animal kingdom and would not have a chance of being understood by the animals if they could read them. When a fox fails to reach a hanging bunch of grapes, he just goes away: he is not such a bad sport as to call them 'sour grapes.' No animal except man can descend to such a low level. If a fox wants to force the Chinese farmers to plant opium by collecting opium taxes from the non-opium-growers he does not call them 'Tax Against Laziness.' Or if he did, he would not be an honest fox . . ."

The everyday doctor who believes in plain common sense will find much comfort in certain chapters. The plea for individuality, initiative, personal freedom and the serenity of peace and quiet should appeal to every doctor.

Finally, there is a rich vein of subtle humor running throughout the volume which is refreshing and stimulating in this day of uncertainty and mental depression.

The book teaches us to be "mellow and resigned even though we may not know what to do."—L.J.M.

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REVIEWS and CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments From
LeRoy Long Clinic

714 Medical Arts Building, Oklahoma City

"Cancer of the Vulva." An Analysis of 155 Cases (1911-1940). By Fred J. Taussig, St. Louis, Mo. American Journal of Obstetrics and Gynecology, November 1940, Vol. 40, No. 5, Page 764.

This is an analysis of 155 cases encountered by Dr. Taussig from 1911 to 1940 and is quite complete with numerous tables to demonstrate locations of tumors, general statistics, stages of the disease, treatment, operative mortality, and five year results.

"Previous to 1935 there were 108 cases of vulvar cancer in my series. Seven of these refused treatment or went elsewhere. Of the 101 remaining cases, 32 survived a five year period.

"Approximately two-thirds of the cases of cancer of the vulva are still operable at the first examination." In those patients in whom a Basset radical inguinal lymph gland resection and vulvectomy was done there was a five year survival of 58.5 per cent or about three out of five. This was in spite of the fact that two out of the five already showed evidence of lymph gland metastasis.

It is therefore Dr. Taussig's conclusion that:

"1. Early recognition and prompt adequate treatment are extremely rare in cancer of the vulva. In spite of this the disease, because of its relatively slow growth, offers a reasonably good prognosis.

"2. Prevention of carcinoma of the vulva by early excision of the leucoplakic vulva should materially lower the incidence of the disease.

"3. Radiologic treatment of the disease gives disappointing results and is usually attended by painful burns.

"4. The complete modified Basset operation gives splendid results in patients with operable lesions (Clinical Groups I-III) who are under 65 years of age. In older patients only those in better than average physical condition with relatively early lesions should be subjected to this procedure."

Since carcinoma of the vulva is usually superimposed upon correctable pathological changes, it is appropriate that we quote Dr. Taussig's views upon the preventive measures.

"I am convinced that we have been very remiss in our preventive measures in the past. The incidence of vulvar carcinoma might very possibly be cut in half, if we would adopt the following measures:

"1. A complete vulvectomy in cases of well-developed leucoplakic vulvitis, and rigid supervision, at least twice a year, in milder cases where the patient refuses operative treatment.

"2. Intensive antisyphilitic treatment in tertiary lesions of the vulva, especially in negroes.

"3. Removal of vulvar warts in women past the menopause.

"4. Close observation or excision of enlarged Bartholin glands in women over 40 years of age.

"5. Cautery excision or radiant treatment of urethral caruncles.

"Particularly in leucoplakic vulvitis would I stress the advantages of surgery over nerve resection or treatment with ovarian hormones. The latter undeniably often decreases the pruritis, but the question whether the use of such carcinogenic substances may not at times predispose to the development of a cancer might very well be raised."

Comment: Dr. Taussig has probably done more than any other person in America to crystallize the various factors involved in treatment of diseases of the vulva, particularly carcinoma.

He has well established the importance and value of preventive attention to pathological conditions which precede carcinoma.

He has likewise standardized the treatment and shown conclusively that vulvectomy combined with a radical, bilateral, inguinal lymph gland dissection of the Basset type is the treatment of choice and will produce excellent results.

At this writing, it is quite clear that radiological treatment has little if any place in the therapy of vulva carcinoma.

Wendell Long.

"Carcinoma of the Ovary." By Frank A. Pemberton. American Journal of Gynecology and Obstetrics, November 1940, Page 751, Vol. 40, No. 5.

This is an analysis of 149 cases of primary carcinoma of the ovary, occurring among a total of 855 patients with ovarian tumors, excluding retention cysts, treated in the Free Hospital for Women from 1906 to 1938. It includes papillary, adenomatous, and medullary carcinoma.

Because bilateral growths occur so often and metastases are found frequently in the back of the uterus, the author believes that the uterus and both tubes and ovaries should be removed whenever possible. Such a procedure was carried out in 105 of the 149 patients. It is frequently difficult to perform this operation when the pelvis is filled with growth and adherent omentum and intestines.

In this series, there were 118 serous adenopapillary carcinoma, with 53 per cent unilateral and 47 per cent bilateral. There were 28 pseudo-mucinous adenopapillary carcinoma with 82 per cent unilateral and 18 per cent bilateral. There were only 6 medullary carcinoma.

The five year cure rate is reported at 32 per cent with numerous tables to demonstrate the extent of the disease and the time after operation.

The summary of Dr. Pemberton's paper is given below:

"Cancer of the ovary should be treated by as radical operation as circumstances permit and that should be followed by x-ray treatment.

"Preoperative x-ray treatment may make some apparently inoperable cases operable.

"The omentum should be removed as a routine.

"The solid and semisolid tumors are much more malignant than the mostly cystic ones.

"The gross extent of the disease determines the prognosis but, other factors being equal, those of low malignancy survive longer.

"The results of treatment are poor because the tumor grows silently until it is incurable in from 36 to 50 per cent of the cases.

"Earlier diagnosis is essential and can be made only by preventive examinations."

It was emphasized in the discussion of the paper by Dr. Te Linde that there was no field in gynecology in which the prognosis was more uncertain than in ovarian tumors. He felt this to be true both from the clinical standpoint and from the standpoint of microscopic pathology.

Dr. Howard C. Taylor, Jr. called attention to the vital importance of knowing what histological standards have been set by the writer when interpreting statistics on carcinoma of the ovary. The cystadenoma which produces implants that eventually disappear is a familiar picture. Grading to the extent of recognizing this type of questionable malignancy is of vital importance, in prognosis and statistics. With this variation in histological standards of malignancy, various clinics are reporting from 8 to 35 per cent cure rate. "Until there can be some standardization of the histologic criteria of malignancy in the ovary, results obtained by different clinics or by rival methods of therapy cannot be satisfactorily compared."

Comment: Carcinoma of the ovary is not a common condition but occurs frequently enough to make accurate knowledge of diagnosis and treatment extremely important, largely because carcinoma must be suspected and the proper treatment instituted in every tumor of the ovary. Since ill-advised therapy for benign ovarian tumors is as objectionable as failure to recognize carcinoma of the ovary and institute treatment, articles such as this one are extremely important.

There are certain salient features about carcinoma of the ovary which are becoming quite well recognized. Medullary solid carcinomas are relatively rare and are of high malignancy with a very small cure rate. Cyst adenomata, which are themselves usually bilateral, are the basis for most of the carcinomas of the ovary and the malignancy is present in both ovaries in about 50 per cent of these cases. The serous adenopapillary carcinoma is slightly more malignant than that found in the pseudo-mucinous type. Pseudo-mucinous tumors are more frequently benign than otherwise and when they become malignant, the malignancy is of lower grade and they are bilateral in a reasonably small percentage.

As demonstrated in an article by Lynch in the American Journal of Obstetrics and Gynecology in 1936 (Page 753) radical operation with removal of both tubes and ovaries and the uterus, with great care to prevent spilling, is the single best treatment for carcinoma of the ovary.

There has been much discussion of the merit of x-ray radiation. Despite Dr. Healy's advocacy of preoperative x-ray, there is insufficient evidence to defer operation in order to give this preoperative x-ray. Postoperative x-ray has done much to produce palliative results and prolong life but there is very little evidence to prove that it has assisted greatly in any curative manner.

Though statistical reviews may be considerably influenced by the histological standards employed by the author, it still remains that the most important feature of carcinoma of the ovary lies in the earliest possible recognition and the proper surgical treatment.

These growths usually reach considerable size and extend widely before producing symptoms. Their proper care, therefore, depends, in the last analysis, upon frequent, careful, routine reexamination.

Routine removal of the omentum in an operation for carcinoma of the ovary is a very questionable procedure. It is agreed by most that such removal of the omentum is not necessary or wise except in those patients where there is involvement of the omentum.

Wendell Long.

"Are Estrogens Carcinogenic In the Human Female?"

The Effect of Long-Continued Estrogen Administration Upon the Uterine and Vaginal Mucosa of the Human Female. By Samuel H. Geist, M.D., and Udall J. Salmon, M.D., New York, N. Y.; *American Journal of Obstetrics and Gynecology*, January, 1941, Vol. 41, No. 1.

The experimental production of genital and breast carcinoma in rats and mice by means of estrogens has raised the very important question as to whether there might not be some danger of inducing carcinomas in human beings by the therapeutic administration of estrogens.

The authors' studies were conducted on a series of 206 women who have been treated with estrogens over periods varying from six months to five and one-half years in whom vaginal and endometrial biopsies were performed during varying stages of the period of treatment. The ages of the patients varied from 25 to 80 years, the majority being over 40. They were being treated for menopausal symptoms, functional amenorrhea, senile vaginitis, and kraurosis vulvae. The hormones were administered in individual doses varying from 10,000 I. U. to 150,000 I. U. The total amount given varied from 500,000 I. U. to 23,400,000 I. U.

The first noticeable effect of estrogen therapy upon atrophic vaginal mucosa is a rapid proliferation of the basilar epithelial cells. This proceeds at a rapid pace, leading to an increase in the number of epithelial layers and resulting in desquamation of some of the superficial epithelial cells. If estrogen administration is continued, there is a progressive increase in the number of epithelial layers, accompanied by an active process of desquamation. Once morphologic restitution has been attained, further increase in the dosage does not appear to produce any further progress in the proliferative response.

Atrophic endometrium responds to adequate estrogen therapy with an orderly regeneration of the epithelial, glandular, and stromal elements. In no case was there any evidence of abnormal proliferation. The process of endometrial growth, desquamation, (associated with bleeding) and regression, followed by regeneration, can be reproduced cyclically by repeating the course of estrogens.

The authors feel, on the basis of these studies, that within the limits of the dosage used in this investigation (up to 23,400,000 I. U.) there appears no evidence to justify the fear that carcinoma of the genital tract may result from the therapeutic use of estrogens.

Comment: This is an interesting report on the clinical use of estrogens, demonstrating reasonably well that, regardless of a relatively large dosage, the proliferation of the epithelium of the genitals remains controlled. Uncontrolled proliferation is a malignancy. Despite this work, one should approach with caution the use of estrogens for relief of vasomotor symptoms by large repeated dosages upon the epithelium of patients who have a tendency (intrinsic factors) to malignancies and those who have had a malignancy treated with radiation and possibly remaining encased malignancy cells.

Warren Poole.

"Experimental Studies With Synthetic Fiber (Nylon) As A Buried Suture." By Leon J. Aries, M.D., Ph. D., Chicago, Illinois; *Surgery*, January 1941, Vol. 9, No. 1, Page 51.

The author performed experiments on dogs using nylon and silk to determine the tissue response, the irritative phenomena, the ability of the material to hold under tension, foreign body reaction in delayed healing by the introduction of infection, and the tendency of the material to form fistulous tracts.

Eighteen fascial experiments were carried out on nine dogs. Dogs were sacrificed at intervals of from 14 to

61 days. The following gross findings were evident: The single filament nylon presented no adhesions to the overlying tissue. There was no serum. The suture material retained its shape, color, and was not fragmented. The silk was encapsulated and covered with dense tissue, so that little or no silk was visible.

Microscopic section through the single filament nylon revealed complete encapsulation. There were a few lymphs at 14 days, and round cells at 28 days. After 56 days there was no infiltration and a definite ring of fibroblasts walling off the suture.

Fibroblastic sections of twisted nylon presented a few leucocytes about the suture. After 28 days there was no reaction.

Microscopic study of silk revealed a tissue reaction not appreciated on gross examination. The silk was surrounded by a cuff of leukocytes. After 35 days the leukocytes were replaced by lymphocytes.

Five end-to-end anastomoses were performed on the jejunum and ileum of 5 dogs using No. 000 nylon sutures. Examination of the anastomoses at intervals from 15 to 61 days revealed no evidence of leakage or peritonitis in any of the dogs. Microscopic study of the sutures showed a number of round cells, but no collar of leukocytes.

The use of nylon in attaching hollow organs as the sigmoid colon and urinary bladder to the abdominal wall did not result in fistulous tracts, while the viscera remained securely attached to the wound.

Bladder tears closed with No. 000 nylon held securely and did not result in fistulous tracts.

The fine No. 000 nylon held tendons securely with no leukocytic or lymphocytic reaction, and at the same time occupied very little space.

To determine the fate of silk and nylon in infected wounds, incisions through the skin, fascia, and rectus muscle were made and then sutured half with nylon and half with silk. One wound was inoculated with a culture of *B. coli* and one with *Staphylococcus aureus*. Nylon was found to act much the same as silk in securely holding the tissues and remaining unchanged. Nylon allows for an early change from leukocytic to lymphocytic response about the suture, while silk keeps the leukocytes present longer.

In summary it may be said that nylon has all the good qualities of silk and in addition is stronger, less irritating, and does not allow for as marked an invasion of its interstices as silk. The author feels that multifilament nylon size No. 000 is the suture of choice for most work.

Warren Poole.

"Suture Studies. A New Suture." By Joseph E. Bellas, M.D., Peoria, Illinois. *Archives of Surgery*, December 1940, Vol. 41, Number 6, Page 1414.

The author lists the following requirements of an ideal suture:

1. The suture should be sterilizable by common hospital and office methods, that is, by autoclaving and by boiling, without significant loss of desirable properties.

2. The suture should possess pliability, satisfactory tensile strength, knot-holding qualities and uniformity for given sizes.

3. The suture should be nonreacting or relatively nonreacting in the body tissues.

4. It should be insusceptible to the action of tryptic enzymes in the body tissues.

5. It should be insusceptible to the chemical and physiologic agents in the body tissues.

6. It should be unaffected by bacteria and incapable of promoting the growth of bacteria.

7. It should be incapable of retarding the process of repair.

8. It should be incapable of inducing disturbing edema or of inducing effusion of tissue fluids in operative wounds.

9. It should be incapable of inducing allergic reaction and, incidentally, of including toxic or carcinogenic influences.

10. It should be practically unaffected by clinical ranges of heat and moisture.

11. It should be truly noncapillary.

12. It should permit ease in handling, at least equal to that of catgut.

13. It should be radiolucent.

The logical conclusion that arises from the foregoing requirements leads to the final requirement:

14. It should be nonabsorbable.

The author states that a study of present day sutures discloses the significant fact that none are available thus far that incorporate all the properties just enumerated. He then introduces a new improved non-reacting suture material called plastigut. This material closely incorporate the ideal properties of a universal suture.

The author states: "In a three year experience with plastigut I have encountered about all the complications that are possible with the suture. I have studiously tried to analyze my experiences and am now convinced that a certain technic should accompany its use. I am impressed by one observation — that continuous sutures within the peritoneal cavity can be used with impunity. I have observed no intraperitoneal complications following use of the continuous suture in either clean or infected wounds. There are no objections, however, to the use of interrupted intraperitoneal sutures. For clean wounds, extraperitoneal sutures may be continuous or interrupted. Generally speaking, interrupted sutures are preferable. The incisions heal promptly by primary intention, with no evidence of reaction, and the skin and underlying tissues during the period of healing remain pliable. For infected wounds and in cases of drainage interrupted suture technic is compulsory for extraperitoneal locations. I am convinced that the advocates of the Halsted silk technic will now find an almost ideal material in plastigut. In infected wounds, there is a definite tendency for the infection to localize without the spreading infection I so frequently observed with catgut. The interrupted loops of plastigut will become loosened when uprooted by a slough and in most cases will be cast off with the slough. Occasionally it may be necessary to use a hook for a loop that has become loosened but not cast off. Those sutures which have become buried in viable tissues remain buried and cause no trouble. I am convinced that no sizes above No. 0 or, at most, No. 1 should be used and that all strands should be used single. The most useful range of sizes in my work has been between No. 0000 and No. 00. The strands are tough; they have a substantial 'feel' equal to that of catgut and superior to the limpness of fine silk. Those who are advocates of the Halstead silk technic will find an improved substitute in a relatively heavier, relatively stronger, nonreacting, nonabsorbable suture that has all the advantages of silk without its disadvantages.

Comment: So far as we are concerned, the question concerning suture material is whether it should be absorbable or nonabsorbable. For those who prefer a nonabsorbable suture, either nylon or plastigut would appear preferable to silk. An examination of samples of the two materials causes us to favor plastigut over nylon.

Warren Poole.

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M. D.
911 Medical Arts Building, Tulsa

"Prostigmin In Otology." By J. Coleman Scal, M.D., F.A.C.S., New York. *The Eye, Ear, Nose and Throat Monthly*, February, 1941.

The first report on this subject was made by Davis and Rommel, of Philadelphia. The auxiliary treatment varied with different patients. They found the improvement in the acute cases was prompt, requiring five treat-

ments or less. The chronic cases showed gradual but definite improvement, requiring a longer period of treatment. Davis and Rommel published a supplementary report and the plan of injection of 1:2000 Prostigmin Methylsulfate *lec.*, two or three times a week, along with oral administration of Prostigmin bromide tablets three times daily.

Houser, Campbell and Schluederberg reported failure of Prostigmin to exert a definite beneficial effect in a series of 56 cases of chronic deafness and tinnitus aurium.

The author reports a study of 40 otological cases following the treatment as outlined by Davis and Rommel. Different theories are propounded as to the mode of action of this drug. It possesses a definite effect as a peripheral vasodilator. The author is of the opinion that much of the therapeutic efficiency of the drug depends upon the increased circulation, locally, in the ear.

Four typical cases are reported in detail. A table is given of all the cases treated. The author very aptly remarks: "The causes of auditory disturbances are so diversified that it is difficult to estimate the value of any form of therapy without a complete and thorough study of the pathology present."

His results showed: 1. All patients in this group complaining of the Meniere symptom-complex, were definitely improved. 2. Forty-five per cent of those suffering with tinnitus aurium were afforded definite relief.

"Observations On the Ineffectiveness of Oral Administration of Potassium Chloride In Various Forms of Allergy." By Frank G. Furstenberg and Leslie N. Gay, *Bull. Johns Hopkins Hosp.* 67:219 (September), 1940.

This is an interesting report on a highly controversial subject that has received quite a good deal of publicity in the last few years. It has to do with the value of potassium chloride therapy in certain allergic conditions. Many investigators have reported marvelous results.

Furstenberg and Gay report a series of eighty-five cases. Fifty of these allergic patients had what is commonly known as hay fever, seventeen had perennial allergic rhinitis and the remaining eighteen had other types of allergy. Each received from fifteen to eighty grams of potassium chloride daily. These observations were carried on over a period of time. According to the above mentioned investigators, their patients did not receive any appreciable therapeutic benefits whatsoever from the potassium chloride therapy. Recent similar reports have been made by other investigators.

"A Case of Corneal Ulcer Associated With Lymphogranuloma Venereum." By G. P. Meyer, M.D. and Jacob Reber, M.D., Philadelphia, *American Journal of Ophthalmology*, February, 1941.

The association of these two conditions is so unusual, that it was thought this case worthy of report.

It is the case of a colored female, age 29, with a chief complaint of a red, sore eye for three weeks previous to examination. The Proctologic Department of the University of Pennsylvania had her diagnosed lymphogranuloma venereum two years previously. The eye examination showed the presence of a simple marginal ulcer (apparently). She refused to be admitted to the hospital for treatment. Wasserman was negative. The usual treatment of atropine, hot compresses, salicylates, mercuophen and like medication was prescribed. This did not prove adequate. The ulcer continued to progress steadily toward the center of the cornea. It was cauterized with phenol, trichloroacetic acid, and iodine ineffectually. This continued for a period of two weeks and then a Frei test was done and found positive, establishing the fact that the patient had lymphogranuloma venereum. The question was, could the eye lesion be an expression of this viral disease? Since according to

the literature, sulfanilamide was effective in the treatment of lymphogranuloma venereum, it was thought advisable to attempt this therapy in this case. Ten grains, three times daily, were given by mouth, with good results. The lesion ceased to progress, the pannus-like roll of tissue flattened and disappeared, staining ceased and the ulcer was completely healed in two weeks. The literature does not show the association of these two lesions although other ocular lesions are associated with lymphogranuloma venereum.

"Thrombosis of the Cavernous Sinus With Recovery." By Claude T. Wolfe, M.D. and William C. Wolfe, M.D., Louisville, Ky. *Archives of Otolaryngology*, January, 1941.

The literature shows only three cases of recovery of thrombosis cavernous sinus; Barnshaw in 1939 and Seydell in 1939, both using sulfanilamide; Morrison and Schindler in 1940 using sulfapyridine. Recovery is considered a rarity.

The author reports a case of a white boy, age 17, who had pulled a hair from a small pimple in his left nostril. Four days after pulling the hair, the nose was markedly swollen, red and tender, and there was a swelling of the left eyelid. Moderate doses of sulfanilamide was administered ineffectually for the patient became progressively worse. There were many chilly sensations but not a shaking chill. He was admitted to the hospital eight days after the hair was pulled from the pimple, with a temperature of 104 F., semi-comatose, dehydrated and critically ill. The left eye was completely fixed and the eyeball proptosed. The movements of the right eye was limited to about 50 per cent of normal. The face was swollen and discolored but there was not any sharp line of demarcation. The furuncle was practically healed.

W. B. C. on admission were 13,600, later rising to 18,800; R. B. C. were 3,600,000. Two transfusions of 500 cc. were given. Thirty grains of sulfathiazole and fifteen grains of sodium bicarbonate were given every four hours, a total of 2,520 grains being given in fourteen days, and 945 grains in the next eighteen days. The patient did not manifest any reaction to the medication.

Twenty-four hours after admission both eyes were completely fixed. Thirteen days after admission there was a small fluctuant mass over the inner canthus of the right eye. Incision produced about one-half ounce of pus that cultured hemolytic *Staphylococcus aureus*. The function of both eyes gradually returned.

The authors base their diagnosis on Eagleton's diagnostic criteria which are as follows: 1. a known site of infection; 2. evidence of infection in the blood stream; 3. early signs of venous obstruction in the retina, conjunctiva or eyelid; 4. paresis of the third, fourth and sixth nerves, resulting from inflammatory edema; 5. the formation of an abscess in the neighboring soft tissues, and 6. evidence of meningeal irritation. The authors say that a diagnosis of thrombosis cavernous sinus is open to criticism unless substantiated at operation or autopsy.

"Bilateral Lymphosarcoma of the Tonsils." By Stephen Young and L. Woodhouse Price, Glasgow. *The Journal of Laryngology and Otology*, September, 1940.

This is the case of a female, age 69, whose chief complaint on being admitted to the hospital was a choking sensation and a lump on the right side of the neck. Examination showed an enlarged right tonsil, slightly more bluish in color than in a case of simple hypertrophy. There was a glandular enlargement behind the angle of the mandible, more pronounced on the right than on the left. The patient appeared to be well nourished and no other gross abnormality was revealed. She gave a history of a year before this of a progressive throat discomfort beginning. The tonsils

were guillotined, thinking they were simply hypertrophied. Three days after she was admitted to the hospital the tonsils were removed by a diathermy knife. She had a slight hemorrhage on the ninth and twelfth day post operative. The histological report was that of a lymphosarcoma. Normal tonsillar tissue was scanty. Two and a half years after operation her general condition is good.

PLASTIC SURGERY

Edited by George H. Kimball, M. D., F. A. C. S.
912 Medical Arts Building, Oklahoma City

"Uretero-Intestinal Anastomosis and Cystectomy." By Charles C. Higgins, Editorial; January, 1941. S. G. & O. Page 112.

The author points out that transplantation of the ureters into the sigmoid with cystectomy has been established as a sound surgical procedure in recent years. By intravenous urography it has been learned that the ureters and kidneys remain normal in a large number of cases when the operation has been properly performed.

The transplantation of ureters is now accepted as standard treatment for exstrophy of the bladder. There is still some discussion and question as to the time of operation. It was previously thought that a child should be four to five years of age before the operation was to be carried out. This was believed in spite of the fact that the ureters became dilated and some of the children developed renal sepsis and died before they reached that age. In the past two to three years it has been demonstrated that infants may be subjected to this operation with resulting low mortality and satisfactory end results. This procedure has been tolerated well in infants principally because the bacteria are less virulent and less abundant than in older individuals.

The author advises transplantation of the ureters in certain cases of epispadias, vesicovaginal fistulae, Hunner's ulcer and also carcinoma of the bladder when the growth is situated at the base of the bladder and the ureteral orifices are encroached upon or the vesical sphincter is invaded, etc.

The author stresses the preliminary preparation and individual selection of cases. Simplicity of technique is stressed.

Comment: There are still some men who doubt that transplantation of the ureters is ever indicated. My own experience has been limited to cases subjected to transplantation of ureters for exstrophy of the bladder. The oldest individual operated upon is 17 years of age, the youngest is five years of age. So far I have never operated on infants for exstrophy. Since I have learned more about the technic and the care of these cases in the last few years I would not particularly hesitate now to apply this knowledge and experience in cases of infants.

CARDIOLOGY

Edited by F. Redding Hood, M. D.
1200 North Walker, Oklahoma City

"The Combined Use of Ouabain and Digitalis in the Treatment of Congestive Heart Failure." (American Heart Journal, October 20; 443-453). By Robert C. Batterman, M.D.; O. Alan Rose, M.D.; and Arthur C. DeGraff, M.D.; New York.

The oral use of digitalis has the disadvantage of (1) a latent period, 2 to 5 hours, before any effect becomes apparent and (2) the necessity of repeating smaller doses under careful supervision in order to produce complete and safe digitalization.

Ouabain (g-strophanthin), however, when administered intravenously exerts an "initial effect in from five

to twenty minutes, and a maximum effect in from fifteen to fifty minutes." Although the action of ouabain is rapid, it has the disadvantage of being eliminated quickly. We have therefore attempted to avoid the disadvantages of both drugs by supplementing and maintaining the early action of ouabain by the simultaneous administration of a single dose of digitalis.

Selection of material.

Only those patients were selected (1) whose heart could be classified etiologically, (2) who had evidence of congestive heart failure, (3) who had no recent myocardial infarction, (4) who had received no digitalis within the previous two weeks, (5) who were co-operative and capable of taking medication by mouth and of giving information regarding subjective changes.

Method of study.

Before digitalization, the maximum effect of treatment other than digitalis was ascertained whenever possible. When this had been achieved, 0.5 mg. (5 cat units) of ouabain was given intravenously simultaneously with 6 or 8 cat units of digitalis leaf orally; the amount of the latter depended on the estimated edema-free weight of the patient. No other digitalis was given for 24 hours. At the end of this time the patient was placed on a daily maintenance dose of one to two cat units of digitalis leaf by mouth. It is important that only reliable preparations of ouabain and digitalis be used. Ouabain in solution undergoes deterioration and, unless a recently standardized preparation is used, the desired immediate effect of a dose which is considered adequate will not be obtained. All patients were then observed closely for symptoms and signs of digitalis toxicity, evidences of improvement, and changes in weight, blood pressure, and ventricular and pulse rates.

Rates.

Digitalization was produced 59 times in 60 cases. Improvement was noted within 15 minutes in 30 per cent of the 60 trials, within one hour in 63.3 per cent, and within two hours in 81.7 per cent. Improvement, therefore, occurred very rapidly in the majority of the cases. As a rule, this improvement, once established, was progressive, so that the maximum effect of digitalization occurred at twenty-four hours.

The type of heart disease appeared to determine to a large extent the time when improvement first manifested itself. Almost all of the rheumatic patients showed improvement within one hour. This group may be explained by the fact that so many of the patients had auricular fibrillation. All patients with hypertension, uncomplicated by arteriosclerosis were improved within two hours. However, when arteriosclerosis was an etiological factor in the heart disease, in only approximately 70 per cent of the patients was improvement noted within the first two hours. The cardiac mechanism appeared to have some relationship to the time of onset of improvement. 83 per cent of the patients with auricular fibrillation were improved within one hour, whereas only 58 per cent of those with normal sinus rhythm showed improvement in this period.

Toxicity.

Eighteen per cent of the patients showed evidences of mild toxicity at the end of 24 hours, but neither abnormal rhythms nor multiple premature systoles were observed. When symptoms of toxicity developed, there was an apparent relationship between the dose of digitalis leaf and the weight of the patient. It is therefore recommended that, with this method of treatment, the dose of digitalis be regulated in the following manner: For patients who weigh less than 125 lbs., use 4 cat units (0.4 Gm.); for those who weigh between 125 and 175 lbs., 6 cat units (0.6 Gm.); and for those who weigh over 175 lbs., 8 cat units (0.8 Gm.).

Comment: This method of therapy has the following advantages: (1) the use of ouabain brings about rapid improvement; (2) the simultaneous administration of the more slowly absorbed digitalis leaf not only maintains this improvement, but also decreases or abol-

ishes the gap between the beginning of digitalization and the establishment of a maintenance dose; (3) although more rapid than the usual method of digitalization, this method is a safe one, and is no more likely to produce toxicity; (4) the method is applicable to patients with normal sinus rhythm, as well as those with auricular fibrillation; (5) the technic of administration is relatively easy. Complicated calculations are not necessary to estimate the initial and subsequent doses of digitalis.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D., F. A. C. S.
605 N. W. 10th, Oklahoma City

"Studies on Dysplastic Acetabula and Congenital Subluxation of the Hip Joint With Special Reference To The Complication of Osteoarthritis." By Gunnar Wiberg; *Acta Chirurgica Scandinavica*, LXXXIII, Supplementum LVIII.

Subluxation of the hip is established as a permanent deformity which may be identified in children by the location of the capital osseus center, dysplasia of this center, and increase in the angle of inclination of the acetabulum. Arthrography with the injection of a contrast medium has permitted a more accurate study of joint details. However, there is difficulty in establishing the diagnosis of subluxation in adults, and the writer offers a method based on the measurement of an angle between a vertical line through the center of the head, and another line through the center of the head and the lateral border of the acetabular roof. An angle of less than 20 degrees indicates defective development.

In following thirty-eight hip joints from childhood to seventeen years of age, the writer found five mal-developed hips which became normal without treatment. Three hips which had originally been considered normal became defective. Nineteen subluxated hips were followed before and after the development of osteoarthrosis, and several series of roentgenograms are reproduced. Of the cases of osteoarthrosis seen over a two-year period, one-fourth appeared to have been due originally to subluxation.

In twenty-eight cases of subluxation which had had shelf operations, one was unimproved, six slightly improved, sixteen considerably improved, and five cured. Two developed osteoarthrosis despite the operation.

"Transitory Synovitis of the Hip Joint in Children." Solomon Rauch. *American Journal of Diseases of Children*, LIX, 1245, June, 1940.

This condition is described as a non-specific, relatively transient inflammation of the synovial membrane of the hip joint of a child. The onset may be acute or insidious, and, clinically, there are symptoms of pain, limp, or unwillingness to walk, and restriction of motion, especially in abduction, extension, and internal rotation. Laboratory evidence of infection, positive tuberculin reaction, and roentgenographic evidence of abnormality are all lacking. The treatment is conservative, and the prognosis for functional recovery excellent. Nearly all recover with two or more weeks in bed.

The author goes thoroughly into the previous literature on the subject, as well as into multitudinous points of differential diagnosis. Forty conditions are listed resembling transitory synovitis of the hip joint, although tuberculous coxitis is given the most emphasis in the discussion.

Thirty-seven case histories are presented in tabular form and various correlations made from the facts. The duration of the condition was from seven to sixty days, with an average of thirty-two days.

Earl D. McBride, M.D.

INTERNAL MEDICINE

Edited by Hugh Jeter, M. D., F. A. C. P., A. S. C. P.
1200 North Walker, Oklahoma City

"The Basophil Granulocyte, Basophilcytosis, and Myeloid Leukemia, Basophil and "Mixed Granule" Types; an Experimental, Clinical and Pathological Study, With the Report of a New Syndrome." By Charles A. Doan and H. L. Reinhart. *American Journal of Clinical Pathology*, January 1941, Volume 11, Number 1, Page 1.

This study is very complete and answers the question of the function and significance of basophils in the blood. Proof of the exact function is not yet established, but interesting speculations are nicely discussed.

Basophilcytosis has not been consistently stimulated in any laboratory animal. Many characteristics in connection with supravital stains and oxidates are observed. It is pointed out that acute termination of chronic myelogenous leukemia is often accompanied by basophilcytosis.

Three cases of progressive hyperplasia of basophilic granule leucocytosis are reported and a statistical analysis relative to the incidents of various types of leukemia is included.

"The Influence of Antecedent Diet Upon the Extent-Rose, One-Hour, Two-Dose Glucose Tolerance Test." By Paul H. Langner, Jr. and Harry L. Fies. From the Clinical Laboratory of the Provident Mutual Life Insurance Company of Philadelphia. *American Journal of Clinical Pathology*, January 1941, Volume 11, Number 1, Page 41.

This is a short report in which the authors point out the effect of diet on this glucose tolerance test. The antecedent diet should always contain a normal amount of carbohydrate. Some individuals having a low renal threshold have been placed on a low carbohydrate diet and subsequently a glucose tolerance test taken, the result of which seemed to indicate diabetes, whereas, following a proper antecedent diet, normal blood sugar levels are obtained. It is concluded that the lack of proper preparation from a dietary standpoint may, at least in part, account for the variable result obtained with the Extent-Rose curve.

Comment: This is an important observation and in our experience applies not only to this particular technique, but also more or less to glucose tolerance tests in general.

"Fat Necrosis Studies, IV: Observations on Peanut Fattened Hogs." By M. Pinson Neal, M.D., Columbia, Missouri. *Southern Medical Journal*, February 1941, Volume 34, Number 2, Page 153.

The author has herein reported findings in regard to fat necrosis resulting from the gross and histopathological studies from the carcasses of 8,324 peanut fattened hogs and concludes that fat necrosis is not produced by the feeding of lipase-containing peanuts.

The presence of the *stephanurus dentatus*, a kidney worm in the pancreas or pancreatic ducts has been the cause of fat necrosis. These careful and complete studies seem to thoroughly discount the idea that lipase in food causes fat necrosis.

UROLOGY

Edited by D. W. Branham, M. D.
502 Medical Arts Building, Oklahoma City

"Some Problems In the Management Of Urinary Calculi." By J. Dillinger Barney and Gordon E. Jones, From the Urinary Department, Massachusetts Hospital Boston. *The Journal of Urology*, January 1941.

Recent clinical reports do not substantiate the earlier claims that Vitamin A deficiency is an important factor in renal stone formation.

Diet, however, is a factor of very real importance. In a recent careful analysis of 100 cases of proved renal lithiasis, it was noted that 39 per cent of patients had consumed excessive amounts of milk, cheese and alkalies for a long period of time. The ingestion of alkalies will tend to produce a persistently alkaline urine and enhance the precipitation of calcium phosphate. Excess amounts of milk and certain vegetables will produce a high calcium and phosphate concentration in the urine and predispose to deposition of these salts in the tract.

Calcinuria may result from metabolic dyscrasias due to tumors of the parathyroid gland producing hyperparathyroidism. Three to four per cent of all cases of renal stone are stated to come from this disease.

Another cause for calcinuria is that which accompanies long bed rest as seen in rheumatoid arthritis and fractures of the larger bones. An increase in blood calcium results from solution of the bone due to disuse of the body.

The authors are convinced that calcinuria is a very important factor in the production of stone particularly in any stasis of the urinary tract be present; also of importance is infection due to bacteria that have the ability to split the urea of urine to produce the alkaline salts. *B. proteus* is the chief organism able to do this but he emphasizes that other more common organisms colon, staphylococci may also break down urea into its components.

With this background of discussion as to the cause of stone formation the authors outline the following regime for the management of stone cases.

1. The dietary habits of the patient must be investigated in order to determine whether an excess amount of oxalates or calcium is being assimilated. The calcium content of the urine is analyzed to determine the amount of calcium excreted.

2. Cultures of the urine are made to determine the type of infection present.

3. The calcium content of the urine is determined by what he describes as a simple bed side test.

4. The stone itself is analyzed to determine its composition. Dietary control to obtain alkaline or acid urine may be essential.

5. The presence of stasis must be determined by cystoscopic and roentgenographic examinations. From such an investigation the proper treatment suggests itself. Reduction of calcinuria and oxaluria through dietary control and elimination of infection and stasis by drugs and management of diet to control urinary reaction are the salient factors to control further stone formation.

"The Significance Of Hypertension In Prostatics With Chronic Urinary Retention." By Edward W. Campbell, Philadelphia, Pa.

The study of hypertension as it occurs in prostatic patients produced some rather interesting observations.

Out of 173 patients there were found to be 19 who had hypertension and of this group 15 obtained a reduction in blood pressure to normal limits by catheter drainage of the bladder. The author asks the question why some patients who have chronic urinary retention develop hypertension and others do not. He believes an explanation of this rests on the ability of the renal pelvis to dilate and thus save the renal tissue from pressure effects; however, when the pelvis of the kidney is anatomically located intrarenally, the back pressure from the bladder exerts its effect upon the renal parenchyma and the resultant vascular changes in the kidney produce hypertension.

In an attempt to determine whether there is a deleterious effect from too rapid emptying of the bladder, he carefully studied all these cases from that aspect i.e. how it influenced blood pressure. He concludes that gradual decompression is still a valuable procedure and is often life saving in a patient with chronic retention who has a systolic blood pressure of 160 mm. or above. Those patients who have normal pressure may be treated by rapid decompression with safety.

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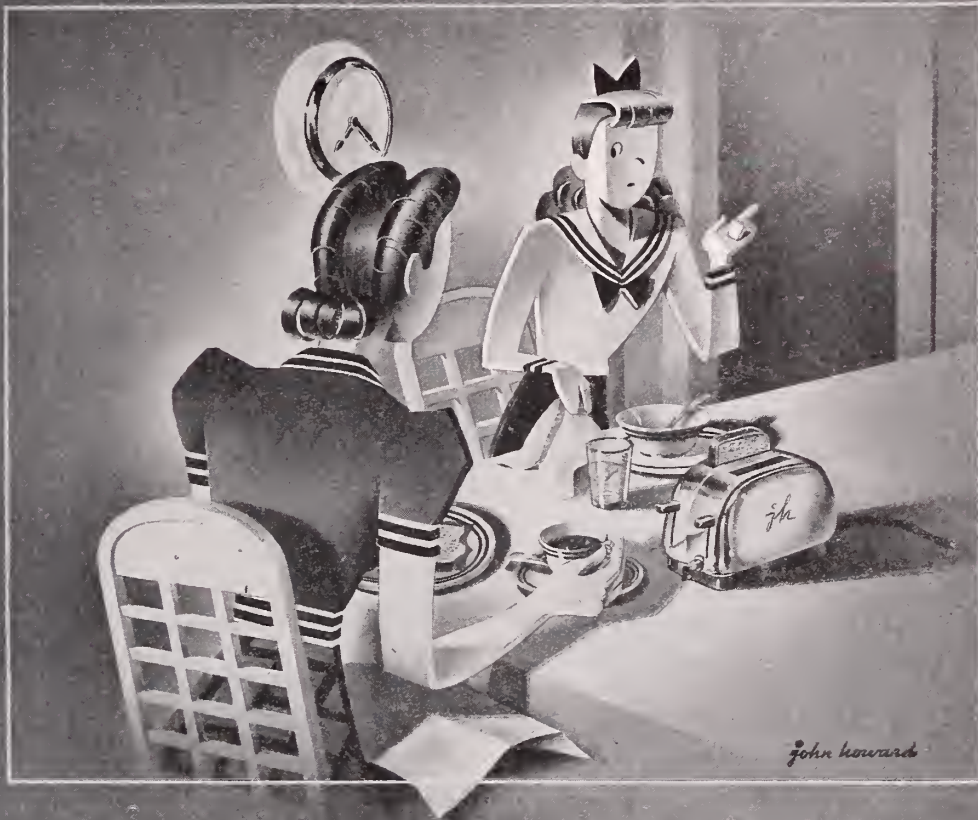
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OFFICERS OF COUNTY SOCIETIES, 1941



COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Adair.....			
Alfalfa.....	H. E. Houston, Cherokee	L. T. Lancaster, Cherokee	Last Tues. Each 2nd Mo.
Atoka-Coal.....	J. B. Clark, Coalgate	J. S. Fulton, Atoka	
Beckham.....	H. K. Speed, Sayre	T. W. Pratt, Cheyenne	Second Tues. eve.
Blaine.....	L. R. Kirby, Okeene	W. F. Griffin, Watonga	
Bryan.....	J. T. Colwick, Durant	W. K. Haynie, Durant	Second Tues. eve.
Caddo.....	E. W. Hawkins, Carnegie	G. E. Haslam, Anadarko	
Canadian.....	P. F. Herod, El Reno	A. L. Johnson, El Reno	Subject to call
Carter.....	Fred Perry, Healdton	James Smith, Ardmore	
Cherokee.....	P. H. Medearis, Tahlequah	Isadore Dyer, Tahlequah	
Choctaw.....	C. H. Hale, Boswell	Floyd L. Waters, Hugo	Thursday nights
Cleveland.....	D. G. Willard, Norman	Moorman Prosser, Norman	
Comanche.....		Donald Angus, Lawton	Third Friday
Cotton.....	Mollie Scism, Walters	R. M. Van Matre, Walters	
Craig.....	Powell L. Hays, Vinita	Paul G. Sanger, Vinita	
Creek.....	P. K. Lewis, Sapulpa	Wm. P. Longmire, Jr., Sapulpa	Third Tuesday
Custer.....	C. Doler, Clinton	W. C. Tisdal, Clinton	4th Thursday
Garfield.....	V. R. Hamble, Enid	John R. Walker, Enid	Wed. before 3rd Thur.
Garvin.....	Robert M. Alexander, Paoli	John R. Callaway, Pauls Valley	3rd Thursday
Grady.....	Turner Bynum, Chickasha	Roy E. Emanuel, Chickasha	
Grant.....	I. V. Hardy, Medford	E. E. Lawson, Medford	
Greer.....			
Harmon.....	Samuel W. Hopkins, Hollis	Wm. M. Yeargan, Hollis	1st Wednesday
Hughes.....	William L. Taylor, Holdenville	Imogene Mayfield, Holdenville	First Friday
Jackson.....	Raymond H. Fox, Altus	Willard D. Holt, Altus	Last Monday
Jefferson.....	D. B. Collins, Waurika	J. I. Hollingsworth, Waurika	
Kay.....	J. G. Ghormley, Blackwell	L. I. Wright, Blackwell	3rd Thursday
Kingfisher.....			
Kiowa.....	J. M. Bonham, Hobart	J. L. Adams, Hobart	
Le Flore.....	G. R. Booth, Le Flore	Rush L. Wright, Poteau	
Lincoln.....		C. W. Robertson, Chandler	First Wednesday
Logan.....	Wm. C. Miller, Guthrie	J. L. LeHew, Jr., Guthrie	Last Tuesday evening
Marshall.....			
Mayes.....	S. C. Rutherford, Locust Grove	E. H. Werling, Pryor	
McClain.....			
McCurtain.....	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow	4th Tues. eve.
McIntosh.....	D. E. Little, Eufaula	W. A. Tolleson, Eufaula	2nd Tuesday
Murray.....	P. V. Annadown, Sulphur	O. D. Thomas, Sulphur	
Muskogee.....	A. N. Earnest, Muskogee	S. D. Neely, Muskogee	1st & 3rd Monday
Noble.....	J. W. Francis, Perry	C. H. Cook, Perry	
Okfuskee.....	J. M. Pemberton, Okemah	L. J. Spickard, Okemah	2nd Monday
Oklahoma.....	George H. Garrison, Okla. City	W. W. Rucks, Jr., Okla. City	4th Tuesday
Okmulgee.....	I. W. Bollinger, Henryetta	M. D. Carnell, Okmulgee	2nd Monday
Osage.....	T. A. Ragan, Fairfax	George Hemphill, Pawhuska	2nd Monday
Ottawa.....	J. W. Craig, Miami	L. P. Hetherington, Miami	Last Thursday
Pawnee.....			
Payne.....	A. B. Smith, Stillwater	Haskell Smith, Stillwater	3rd Thursday
Pittsburg.....	W. H. Kaeiser, McAlester	Edw. D. Greenberger, McAlester	3rd Friday
Pontotoc.....	E. M. Gullatt, Ada	R. E. Cowling, Ada	1st Wednesday
Pottawatomie.....	R. M. Anderson, Shawnee	Clinton Gallaher, Shawnee	1st & 3rd Saturday
Pushmataha.....	E. S. Patterson, Antlers	D. W. Connally, Antlers	
Rogers.....	W. A. Howard, Chelsea	P. S. Anderson, Claremore	1st Monday
Seminole.....	Claude S. Chambers, Seminole	Mack I. Shanholtz, Wewoka	
Stephens.....	E. C. Lindley, Duncan	John K. Coker, Duncan	
Texas.....	L. G. Blackmer, Hooker	Johnny A. Blue, Guymon	Subject to call
Tillman.....	T. F. Spurgeon, Frederick	O. G. Bacon, Frederick	
Tulsa.....	J. C. Brogden, Tulsa	Roy L. Smith, Tulsa	2nd Thursday
Wagoner.....	H. K. Riddle, Coweta	S. R. Bates, Wagoner	
Washington-Nowata.....	S. A. Lang, Nowata	J. V. Athey, Bartlesville	2nd Wednesday
Washita.....	A. S. Neal, Cordell	James F. McMurtry, Sentinel	
Woods.....	C. A. Royer, Alva	O. E. Templin, Alva	Last Wednesday
Woodward.....	Joe L. Duer, Woodward	C. W. Tedrowe, Woodward	

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Intra-Cavitary X-Radiation*

L. S. MCALISTER, M.D.

MUSKOGEE, OKLAHOMA

Our interest in this subject was first stimulated by Dr. Merritt's post-graduate course, conducted during the meeting of the International Congress of Radiology, held in Chicago in 1937, when he said, "We have practically put our radium on the shelf." We have been using it in our daily office practice since January 1, 1938, shortly after the installation of shock-proof, two hundred kilovolt equipment.

In order to be as practical as possible, no effort has been made to give the history of the idea or to cover the literature on the subject. Our technique has been evolved to the best of our knowledge from the sources listed at the end of the paper. If we have failed to give credit to anyone, it is due to an oversight and is entirely unintentional.

A series of cases will be appended merely for illustration, and not to show a percentage of cures. We hope to publish a series covering the latter aspect about five years from now.

We are convinced that the method is practical, flexible, and cancericidal. The method does not traumatize the tumor, and is well borne by the patients.

In justification of the method, consider this statement quoted from a well known article by Arneson and Quimby. "Healy has repeatedly stressed the fact that when radium is applied to the cervix alone, it can

be relied upon to control the diseases directly in and about the primary lesion, but that it is incapable of destroying the tumor more than three or perhaps four centimeters from the cervical canal. Some other means must be employed in an attempt to deliver a lethal dose of radiation to the out-lying tumor-bearing regions."

We feel that intra-cavitary X-radiation through the four and six-tenths centimeter Ferguson speculum as advocated by Merritt is one of the answers to this problem. To date, we have failed to encounter a single patient whose vaginal intoritus failed to admit this speculum, with its obturator, providing it was well lubricated and introduced slowly. Furthermore, we have found that if the speculum can be introduced there is usually ample room to point it into either fornix, or straight at the cervix. In other words, a lethal dose could be safely delivered to the cervix, and following this, the cervix could be placed outside the speculum and a similar dose administered into the fornix which seems to need it the most. We have not attempted it as yet. To render this variation of the technique safe, we will employ a lead sleeve one-sixteenth of an inch thick running the length of the speculum inside. The proximal end of the sleeve is flared to fit over the nose-piece of the shock-proof drum. The nosepiece is constructed entirely of lead an eighth of an inch thick and has an internal diameter of three and a half centimeters.

By exposing a film at the end of the Ferguson speculum with a long sleeve, the cir-

*Read before the Section on Dermatology and Radiology, Annual Session, Oklahoma State Medical Association, May 7, 1940, in Tulsa.

cular port of entry, as photographed measures exactly four and six-tenths centimeters. With a short sleeve, we have obtained photographs of ports measuring five centimeters in diameter. When the ray strikes the cervix or the fornix, it seems reasonable to assume that it scatters in all directions, so that the area treated is in all probability larger than five centimeters in diameter. In addition, the ray which is filtered through a half millimeter of copper plus one aluminum probably deteriorates, due to the Compton effect, into rays of longer wave length, which should be more biologically active than the primary beam.

In addition to the intra-cavitary X-radiation as described, we are using externally six ports as advocated by Arneson and Quimby. The size of the ports is 10 by 12 centimeters, because Dr. Howard B. Hunt, of Omaha, advised us that twenty-two hundred r in air could be administered to this size port with no more skin effect than eighteen hundred on a larger port. Instead of 70 centimeter target skin distance, as advocated by Arneson and Quimby, we have finally decided to use 80 because they have shown that the depth dose can be increased more economically from the time standpoint by this method than by increasing the thickness of the filter. In addition, Merritt advocates no more than eight r per minute afflux, and 80 centimeters with half millimeter of copper delivers this afflux on our equipment.

We still use a half millimeter of copper because the work of Friedman seems to indicate that this quality of radiation is more active biologically than the quality produced by thicker filters. Another reason is that in a personal communication Dr. Merritt stated that the filtration was not so important, except to aid in acquiring a minute r afflux of eight. In our short clinical experience, this degree of protraction, in addition to the fractionation, is well worth the time expended, although work in other centers seems to disprove it if the protraction is under twenty-four hours. Dr. Merritt also advocates treating lightly enough to prevent diarrhea and weight loss and even from our small series, we are beginning to feel that this is sound reasoning. He states that it is often necessary to decrease the size of the ports as the dose mounts upward as an additional safeguard against weight loss and diarrhea. It seems to us that the severity of the reaction is directly proportional to the stage of the tumor as well as the size of the dose delivered to it.

The intra-oral technique which we have been using is analogous to the intra-vaginal, except for the fact that only two external ports are used. The intra-cavitary dose is

always four thousand r and sometimes five thousand, especially in Broder's grade one or two. We have been administering it at three hundred r per day for thirteen to seventeen days, treating daily except Sundays. Some men are giving five or six thousand r unfiltered in one sitting with their fast 20 or 30 milliamperage equipment. We feel that they are neglecting one important factor, namely, to irradiate as many cells as possible during mitosis. This may not be so important, however, with such caustic doses.

Externally, we plug along now at 150 r in air to two ports daily except in oral cases which receive only 150 r to one side daily, followed at the end of the series by intra-oral therapy.

In cervical cases we are beginning to side with Dr. E. C. Ernst, of St. Louis, and wait four or even six weeks before starting intra-vaginal radiation. This waiting period is supplemented by daily douches consisting of four or five tablespoons of vinegar to two quarts of warm water if there is much infection or inflammation. This dilution approximates the pH of the normal vagina (Karnaky).

The shrinkage of the growth or at least of the surrounding zone of inflammatory reaction built up by the organism against the tumor and its secondary infection is often phenomenal. Following the shrinkage, the actual size of the growth may be more accurately determined by palpation and the amount of intra-vaginal X-radiation determined.

During the last two years we have treated twelve cases by the intra-cavitary X-radiation method, of which eight were intra-vaginal and four intra-oral. One of the intra-vaginal cases was clinically a squamous cell carcinoma of the urethra, but no biopsy was taken.

The technique described is the one which we have finally decided should be the most cancericidal after two years' practical experience and study of the work done by the men listed in the bibliography. None of the cases appended were treated exactly as described above, but the techniques were entirely analogous except for the fact that the filters were varied all the way from two and a half millimeters of copper to a half a millimeter and the distance from 50 to 80 centimeters in the order mentioned. In other words, the technique described is really the one with which we treated our last case (the first appended) and is the one we plan to use on future cases.

The intra-oral technique is technically more difficult than the intra-vaginal, especially when permanent teeth are still present, or the lesion is situated in an unusual loca-

tion. A slight amount of ingenuity must be exercised in making the various shaped cones to suit the individual cases. The only mathematics required is the practical use of the inverse square law of distance as it affects the intensity of the incident ray for the various lengths of cones. Those radiologists possessing r meters will not be forced to use any mathematics.

Our series to date is as follows:

1. Mrs. E. B., age 56, squamous cell grade three of cervix, late stage two, left fornix. Six, ten by twelve ports at eighty centimeters through half millimeter copper. Six weeks later, intra-vaginally, seventeen doses of three hundred r each, through half millimeter copper. Treatment begun in November, 1939, finished in January, 1940. Weight loss of fourteen pounds. One transfusion. Pain in left hip and down left sciatic nerve all during treatment. Examination April 26, 1940 revealed complete clinical regression. The sciatic pain was much better at this time. We feel that the amount of distress during treatment is directly proportional to the size of the tumor.

2. Mrs. B. L. D., age 56, squamous cell carcinoma of cervix, grade one, stage one, left anterior lip. External series began July 30, 1939, six ports, one millimeter copper, sixty centimeters distance. Intra-cavitary X-radiation began immediately after external series through one millimeter copper. Seventeen doses of 300 r. Examination in March, 1940 revealed complete clinical regression. Neuritic pain in left leg which seemed to follow the influenza. Left sciatic neuritis still very troublesome in April, 1940.

3. Mr. E., age 83, leukoplakia with eroded center under lower denture on right side where the third molar should have been. Walnut sized node under right mandible. Refused biopsy. External treatment started on right December 10, 1938, filter two and a half millimeters copper at fifty centimeters, ten by ten port, carried to 2600 r on right and 1200 on left. Followed a week later by intra-oral series totalling 3,920 r. February 22, 1939, examination revealed complete clinical regression.

4. J. A. G., white male, age 54, grade 2, carcinoma right base of tongue. Anterior cervical metastases. Biopsy on one of the glands also showed squamous cell carcinoma grade 2. Although the situation appears hopeless, the patient requested treatment. The external ports measured 10 x 15 cms., and were placed so as to include the tongue as well as the anterior cervical lymph nodes. Filtration was two and a

half millimeters of copper and the distance was 50 centimeters. The dose was carried up to 2,500 r in air. Following this series, intra-oral radiation was administered at the rate of 300 r per day and carried up to 5,142 r. The port in the lead cone measured three and eight-tenths centimeters. The primary lesion regressed clinically, but the metastatic nodules were not controlled, even though, subsequently, each individual node received an additional 3,000 r through five by five centimeter ports. The patient died about four or five months after the end of the treatments.

5. Mrs. L. A. L., white female, age 75; clinical diagnosis of carcinoma of uterine fundus. Biopsy refused and radium refused. She demanded X-ray treatment only. Six external ports were carried up to 1,500 r at 50 centimeters distance through 0.5 mm. copper. Poor response with weight loss and diarrhea. External radiation discontinued and intra-vaginal started and carried up to 3,000 r. Although patient was undertreated, response to treatment was severe. In our experience, the severity of the reaction is directly proportional to the size of the growth. She died about eight months following the treatment.

6. Mrs. J. W. M., white female, 71, weight 116 $\frac{1}{4}$, referred for treatment for squamous cell carcinoma of cervix with some friable parametrial involvement extending ventrally and to the left. Treatment begun externally December 3, 1938 through one mm. copper at 50 cm. distance. Six ports each received 1600 r in air and the perineal making seven ports in all received 1200 r. Two weeks after this series, which ended January 14, 1939, intra-vaginal radiation was started through the 3.6 cm. Ferguson speculum, at the rate of 233 r per day, delivered in ten minutes through 0.5 mm. copper and carried up to a total of 5010 r in 15 doses. The last seven doses were 466 r per day. After the patient learned to relax the perineal floor, the 4.2 cm. speculum was used. All through the course of treatment, the outstanding feature of this case was the continuous gain in weight. At no time was the patient nauseated nor did she have diarrhea. When last examined in April, 1940, she weighed 124 pounds, and the site of the malignancy was epithelialized.

7. Mrs. J. P., white female, age 35, squamous cell carcinoma of cervix, grade 4, late stage one or two, weight 139 pounds. External radiation was started on January 11, 1939. Three ports were treated, one in front and two behind. Each port received 225 r and only one portal was

treated daily. By January 28, 1939, each portal had received 1350 r all through 2.45 mm. copper at 50 cms. distance through 15 x 15 cm. ports, directed toward the cervix. The posterior ports were treated with the central ray entering at a 30 degree angle. This technique caused the patient considerable diarrhea, and her weight dropped to 135 pounds. Dr. Merritt stated in a personal communication that he did not think it wise to produce so much diarrhea and weight loss. Consequently, external radiation was discontinued, and intra-vaginal X-ray given at the rate of 445 r per day for six days. During this period the diarrhea ceased. Immediately following the intra-vaginal radiation on February 4, 1939, external radiation was again started through two anterior and two posterior ports per day, each port receiving 150 r. These treatments were given through 0.99 mm. copper at 60 cm. distance. At this rate, alternating front and back, each port finally received 2200 r without any further diarrhea or weight loss. February 17, 1939, intra-vaginal X-ray was again started and given at the rate of 445 r daily for six days. Following this right and left lateral ports were treated daily at the rate of 150 r and carried up to 2200 r. When last examined, April, 1940, she weighed 150 pounds, and the cervix and left fornix were in good condition.

8. Mrs. W. M. R., colored, age 65, referred for treatment of a hard growth infiltrating the urethra and posterior bladder wall, also a large pelvic mass, the size of a football. No biopsy was done, but clinically, we made a diagnosis of excavating squamous cell carcinoma of the urethra and possibly a large uterine fibroid. Treatment was begun as usual externally on August 9, 1939, at the rate of 150 r per port through six ports, placing the lower border of the ports below the symphysis pubis so as to cross-fire the urethral lesion as well as the pelvis mass. Each port was carried up to 2200 r. Following this, the indurated urethra and all of the growth that could be included in the 4.6 Ferguson speculum was treated daily at the rate of 300 r per day through .99 mm. copper, and the dose carried up to 5000 r in air. The treatment was finished November 3, 1939. The urethral lesion was entirely healed by December 26, 1939, and there was no palpable induration in the bladder wall. January 26, 1940, the patient was examined. The urethral condition was found to be good. The pelvic tumor was much smaller, but the patient was beginning to complain of tenderness in the right lower quadrant of the abdo-

men. A short wave diathermy treatment through this region seemed to increase the pain. We have not had the opportunity of examining this patient since. During the treatment her weight dropped from 135 pounds to 131 pounds, which in our experience is always a bad sign. Judging from the patient's clinical course, we are inclined to believe that the intra-pelvic mass was also malignant rather than fibrotic. Still living, April, 1940.

9. Mrs. J. W. R., age 50. Patient was referred with a clinical diagnosis of cancer of the cervix, stage four. No biopsy had been done, because the patient was practically exsanguinated. Her blood count was 2,190,000 red cells, with 50 per cent haemoglobin. The hemorrhage responded almost immediately to the external series of radiations. Six ports were used and treated at the rate of 150 r per day through .99 mm. of copper plus one mm. of aluminum, at 60 cm. distance. The ports measured 15 x 15 cm. at first, but were finally cut to 10 x 12 cm. The external treatment extended from June 26, 1939 up to and including August 15, 1939. Scattered along through the external series, the patient received four transfusions of whole blood, 500 cc. being given at each transfusion. Citrated blood was used because in vivo it seems to increase the coagulability of the blood. Following the external series, the intra-vaginal radiation was started at the rate of 300 r per day through a 4.6 cm. Ferguson speculum, with a filtration of .5 mm. of copper, and carried up to 5032 roentgens. By August 16, the patient was able to come to the office on foot rather than in the ambulance, and her blood count had risen to 4,500,000 red cells with 80 per cent haemoglobin. At this time, a mass was noticed on her left shin, which, in the radiograph, showed no evidence of bone destruction, but merely a soft tissue swelling. We feel, however, that it was some type of metastatic invasion. The posterior bladder wall was also invaded. The patient was able to do all her housework from August 16, 1939 until January 15, 1940, at which time she complained of pain in the right kidney region. Our intravenous pyelogram revealed no shadow on the right side, which we interpreted as being indicative of impaired renal function. Effort at ureteral catheterization by one of my very competent colleagues was unsuccessful. The posterior bladder wall was seen to be grossly distorted by the infiltrating carcinoma. Although we were not particularly eager to treat this patient at the outset, we feel that the unexpected degree of palliation

was well worth the effort expended. Patient died April 10, 1940.

10. Mr. S., age 61; carcinoma of the anterior surface of the tongue, measuring about 2.5 cm. in diameter. The Wassermann was negative, and a biopsy was not done, the patient stating that he would rather be treated for what it looked like and what he thought it was, rather than have it cut on. No submental or cervical nodes were palpable, so treatment was started July 17, 1939, through a lead cone directed through the open mouth directly on the lesion, including about two cm. of the healthy tissue. Treatment was given through 2.5 mm. of copper at the rate of 14 r per minute. Although we did not feel that this was necessary, it did seem to minimize the reaction, probably because this quality of radiation is less active biologically, as was demonstrated by Milton Friedman. 5,000 roentgens, as measured in air, were given in 17 doses. Immediately following 10 doses of 100 r each were given to both sides of the neck through the same filter. The beams were allowed to cross-fire through the region of the tongue. The growth had entirely disappeared by October 9, 1939. His chief complaint, following the treatment was that his favorite beverage, which was beer, as well as everything else, had a sickeningly sweet taste. When examined in February 1940, however, this annoying symptom had disappeared. The tongue still appeared clinically well in April, 1940.

11. Mrs. C. T. T., age 51, referred for treatment of carcinoma of the cervix. The biopsy showed squamous cell carcinoma, grade three. Clinically, it had advanced to stage two or three. It was excavating in type. She weighed about 130 pounds. Treatment was begun May 29, 1939. Each of six ports received 2200 roentgens through one mm. of copper at 60 cm. distance. The external series was completed July 18, 1939. Intra-vaginal X-ray therapy was started immediately at the rate of 300 r per day, and 4800 r were delivered in 16 days. Instead of improving, she went steadily downhill. She had four transfusions and complained of excruciating pain for a number of weeks. She lived until February 8, 1940, but was practically an invalid all the time. Her last weight was 107 pounds. Judging from the response to treatment, we believe this case was more advanced than a stage three. She developed a broad ligament slough such as we have all seen, following the use of radium. A fecal fistula also developed in the last few weeks. We feel that death in this case resulted from the enormous saprophytic abscess which developed in the left broad ligament. We

also feel that four weeks or longer should have elapsed before starting the intra-vaginal therapy.

12. Mrs. J. M. W., age 53, referred October 17, 1938 for treatment of a carcinoma of the right lower alveolar margin. It had developed under her false teeth. The biopsy revealed an inflammatory squamous cell carcinoma, grade two. External radiation was started through 2.5 mm. of copper at 50 cm. distance at the rate of 300 r per day, treating only one port per day until dosage was carried up to 1800 r in air per port. The ports included the mandible and the cervical lymph nodes. Snuff was apparently another of the etiological factors in this case. There was extensive leukoplakia involving both cheeks and the superior alveolar margin on the left side. The growth was about 4 cm. in length and about 1.5 or 2 cm. in width. Immediately following the external series, intra-oral radiation was started at the rate of 300 r per day through 1 mm. of copper and treatment was continued at this rate for ten days, at which time, it was protracted by adding another .5 mm. of copper to the filter, and proceeding at the rate of 164 r per day until a total of 5000 roentgens had been administered. This was completed November 30, 1938. During the height of the reaction, which was surprisingly mild, an alkaline mouth-wash was prescribed, such as is commonly used in the eye. Her weight increased from 167 pounds to 170 pounds during her treatment. By March 16, 1939, the gum appeared completely healed. For the leukoplakia, she was advised to quit snuff, and take a teaspoon of Epsom salts in a glass of water after breakfast for a long period of time. We are not familiar with the rationale of such treatment, but it is being used at the University of Nebraska College of Medicine, Washington University, and also at the Mayo Clinic. When last examined, March 8, 1940, there was no evidence of recurrence of the carcinoma, but the leukoplakia was still present, and the patient was still dipping snuff.

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Chronic Otitis Media*

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Chronic otitis media, due to its frequent occurrence and the disturbances of hearing caused by it, must be considered as one of the most important diseases of the organ of hearing.

A clear understanding of the etiology is necessary for the most successful treatment of chronic suppurative otitis media.

First of all we must understand that chronic suppurative otitis media is practically never the result of an ordinary acute suppurative otitis media. The ordinary acute suppurative otitis media is essentially a self-limited disease which never ends in a chronic discharging ear; it runs a very characteristic course which ends either in the death of the patient from a complication or in complete recovery of the ear to normal.

The ordinary acute suppurative otitis media begins usually as a streptococcus or pneumococcus infection of the mucosal lining of the middle ear spaces and mastoid air cells. Edema and inflammatory thickening of this mucous membrane is accompanied by the migration of polymorphonuclear leucocytes in large numbers from the dilated capillaries into the tissue spaces in the mucosa, and thence into the lumens of the air cells and middle ear to form pus. The pus drains out through the perforation in the drum membrane and the great majority of these acute otitis medias subside and clear up in a few days to a few weeks. The perforation in the drum membrane always remains pinpoint in size and closes as soon as the discharge stops. In a small proportion of ordinary acute suppurative otitis medias where the infection of the mucosa of the middle ear and mastoid is more severe, the inflammatory thickening of this mucosa gradually increases until the drainage from the mastoid cells is obstructed. The increased pressure resulting from the

retained secretions, plus the marked vascularity which is present, causes a decalcification of the mastoid cell partitions with removal of this softened bone by osteoclasts which appear in great numbers. Soon the discrete mastoid air cells have not only become completely filled with a tremendously hypertrophied and vascular mucosa and connective tissue, but they have begun to coalesce or melt together into a large cavity filled with pus and granulations.

When we open up this mastoid about the fourth or fifth week of the otitis media we find the bone greatly softened and the cells have begun to coalesce into cavities filled with pus and granulations, and perhaps the lateral sinus or the dura lie exposed in this cavity. But we do not find any actual gross necrosis of bone in this coalescent mastoiditis. The bone is softened and is being removed, but it is still living bone, and as the pressure of the retained pus is relieved, the remaining bone begins to regenerate. The purpose of the simple mastoidectomy in coalescent mastoiditis is not to remove necrotic bone, for there is essentially no necrotic bone. The purpose of our operation is to provide perfect drainage from the obstructed cells by a complete anatomical mastoidectomy and thus to minimize the danger of a fatal complication. The mastoid operation in coalescent mastoiditis, contrary to opinions frequently expressed, is neither to prevent a chronic otitis media nor to prevent deafness, since the ordinary acute suppurative otitis media is essentially a self-limited process which ends in a normal ear, provided the patient survives.

Then what is the cause of a chronic suppurative otitis media? Chronic suppurative otitis media arises in one of two ways. It may begin insidiously in a previously intact drum membrane as we shall describe in a few minutes, or more often it is the result of a disease known as acute necrotic otitis media.

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Acute necrotic otitis media is fundamentally a different pathological process from the ordinary acute suppurative otitis media. Acute necrotic otitis media is almost never seen except in severe toxic cases of scarlet fever, and less often in measles, and in other severe infections such as influenza, pneumonia and diphtheria. Acute necrotic otitis media constitutes only a small proportion of the acute otitis medias in these diseases since in the average case of measles and scarlet fever the acute suppurative otitis media is the ordinary type of infection described above, and runs the usual course of the ordinary acute suppurative otitis media. Acute necrotic otitis media occurs mainly in the severely toxic cases, and most of these are in young children.

Acute necrotic otitis media begins with an inflammation of the mucosa of the middle ear and mastoid air cells, but the infection is fulminating from the outset so that the drum membrane perforates spontaneously relatively early, usually within a few hours. The first evidence of necrosis is almost immediately evident in the drum membrane where the perforation, instead of remaining a tiny pinpoint opening as it invariably does in the ordinary acute suppurative otitis media, rapidly enlarges as the drum membrane necroses and melts away. This necrosis is due to an extensive thrombosis of the small blood vessels depriving the area of all blood supply so that it promptly dies. The drum membrane may be partly or completely destroyed in this necrotic process, depending on the severity of the infection. The mucosa of the middle ear spaces similarly becomes necrotic in the more severe cases leaving denuded bone. Portions of bone may also become necrotic due to thrombosis of their blood vessels so that the annulus, the ossicles, and more or less of the mastoid cell partitions may become necrotic.

It is probable that most of the necrosis occurs quite early in the otitis, probably within the first few days.

The discharge from the ears of these extensive necrotic otitis medias is characterized by its thin purulent character without the usual admixture of mucous, since the mucosa of the middle ear and mastoid cells has been destroyed. The pus may have a very foul odor in the severe cases.

The diagnosis of acute necrotic otitis media is made by finding a large perforation in a previously normal drum membrane. In extensive cases the promontory and the ossicles

will be seen as bare bone, the drum membrane is gone, and the pus is thin and fluid with a foul odor. Acute necrotic otitis media is chiefly important for its permanent damage to the ear. The ear never returns entirely to normal after an acute necrotic otitis media. Because there has been an actual loss of tissue in the drum membrane and middle ear, there are always permanent changes. Conduction deafness due to fibrotic changes around the footplate of the stapes is a frequent sequel of necrotic otitis media. Chronic suppurative otitis media is the other important result of acute necrotic otitis media.

There are three ways in which an acute necrotic otitis media may become chronic. The most frequent type is the large central type of perforation. The annulus remains intact so that a tiny rim may be seen even if the perforation is quite large. The malleus is likewise usually intact, so that a large perforation is apt to have a kidney shape. The inner wall of the middle ear as seen through the perforation is lined by pink mucous membrane, and there may be a polypus projecting into the external canal. The discharge is distinctly mucousy in character. While it may have a foul odor when the ear has been neglected, after one or two cleansing treatments the odor disappears. The chronic discharge in these central perforations is due to the large perforation which allows dirt, debris and saprophytic organisms from the outer ear to get into the middle ear cavity and keep up a constant irritation. The infection is confined to the mucosa of the middle ear and eustachian tube and there is no tendency to bone invasion and intracranial complications.

The treatment is conservative. The most important item is cleanliness and the next is the use of some mild antiseptic. Bor-alcohol is the time honored remedy, but the alcohol may cause a continued secretion of mucous from the mucosa and should not be continued for more than a week or two. Zinc ionization has enjoyed the rise and fall of a transient popularity. In my experience, careful drying of the ear followed by the insufflation of a little boro-iodine powder (Sulzberger) is the most satisfactory and effective treatment. This should be repeated every day or two until the ear is dry. Recrudescences of the mucousy discharge from the middle ear and eustachian tube are frequent and follow either acute upper respiratory infection or getting water into the middle ear from the external canal. The recurrences respond to local antiseptics and drying treatments. Even

when the stringy, mucousy discharge is difficult to clear up, operation on the mastoid is never indicated in this type of chronic otitis media since the discharge is not coming from the mastoid and if a radical mastoidectomy is done, the discharge will continue from the infected mucosa of the middle ear and eustachian tube. Therefore, a radical mastoidectomy is not only unnecessary in the simple central perforation type of chronic otitis media, but it will be of no benefit whatever in controlling the discharge. I might mention here that rarely in this kind of chronic otitis media a severe fresh infection of the middle ear spaces from a nasopharyngitis may spread into the remains of the mastoid cells and give rise to a mastoid infection requiring surgery. When this occurs it should be dealt with as any acute mastoiditis, by simple mastoidectomy.

The second type of chronic otitis media which may result from an acute necrotic otitis is the result of the ingrowth of epidermis from the outer canal to line the middle ear and attic. Contrary to popular belief, the mucosa of the middle ear never changes into epidermis by metaplasia, nor does epidermis grow in over areas covered by mucosa. The ingrowth of skin into the middle ear cavity occurs only after an acute necrotic otitis media has first destroyed the mucosa, and after part of the annulus has also necrosed leaving a smooth surface for the skin to grow along. In the healing of every case of necrotic otitis there is a race between the epidermis from the external canal and the mucosa from the eustachian tube and any remnants in the middle ear or mastoid cells to see which will cover the denuded bone first. In most cases the mucosa wins because mucous grows more rapidly than skin, but if the necrosis of mucosa has been very extensive then in healing, skin will line at least part of the middle ear and usually the attic. The normal desquamation of the cornified layer of skin soon gradually collects in the attic to form a cholesteatoma. Saprophytic infection of this epidermal debris, frequently with the bacillus pyocyaneus, results in a chronic foul discharge. This type of cholesteatoma is called a secondary cholesteatoma because it is secondary to an acute necrotic otitis media.

The diagnosis of cholesteatoma depends entirely upon the clinical inspection of the ear. The examination must be made carefully after cleaning out the ear thoroughly. One can then see that skin instead of mucous membrane lines the middle ear and extends

into the attic. Where the ear has been neglected, granulations and polyps may obscure the view so that until these have been removed by snare and cautery with the silver nitrate bead, the true character of the disease may remain in doubt. Irrigation of the attic, washing down the characteristic white flakes of desquamated epidermis, confirms the diagnosis of cholesteatoma. The x-ray will demonstrate a cholesteatoma only when the cholesteatoma cavity extends into the antrum and has resulted in a distinct enlargement of the antrum. Since not more than one in ten cholesteatomas are this extensive, the x-ray is of no value for diagnosis and is helpful only in showing the extent of the process in those cases that may require surgery.

The treatment of cholesteatoma is quite simple and consists essentially in removing the desquamated epidermal debris from the pocket in the attic and aditus. This is accomplished by irrigation with warm 95 per cent alcohol through the attic cannula. These irrigations should be repeated once a week until the ear is clean, dry and odorless. As long as the cholesteatoma cavity contains moist debris, absorption of bone around it is slowly progressive and the cholesteatoma is active and potentially dangerous. As soon as the cavity is clean, dry and odorless, the cholesteatoma is inactive and harmless. If local measures consisting of repeated attic irrigations do not produce a dry ear after a reasonable length of time, and particularly, if the x-ray shows an enlargement of the antrum, then we know that the cholesteatoma cavity is too large to be kept safely clean through the middle ear and surgery is indicated.

The third type of chronic otitis media that may result from an acute necrotic otitis is rather rare and consists of a focus of low-grade caries in the attic or mastoid. It begins probably as a small area of bone necrosis accompanying the acute necrotic process and continues as a small focus of suppuration. The discharge is slight, is very foul and is rather serous in type as compared to the foul purulent but non-mucousy discharge of cholesteatoma and the mucousy discharge of a simple central perforation. The middle ear is lined by pink mucous membrane but in spite of prolonged local cleansing and antiseptic treatment the foul odor to the discharge continues. Surgery is indicated because the caries tends to progress slowly, and may result in intracranial complications.

So far we have covered these cases of

chronic otitis media secondary to an acute necrotic otitis, usually from scarlet fever. There is another group of chronic suppurative otitis media where the discharge begins insidiously without any antecedent acute otitis media. These are the cases associated with a small perforation confined to Shrapnell's area. The origin of this type of chronic otitis media has only recently been understood, and if you will be on the lookout you will see the earliest beginnings of some of these cases. As you know, Shrapnell's membrane or the pars flaccida of the drum membrane has no tense fibrous tissue layer to hold it rigid. When the eustachian tube is closed and the air in the middle ear has become absorbed, Shrapnell's membrane is much more sharply retracted than is the pars tensa. The same sharp retraction also occurs in infancy when the normal resorption of embryonic connective tissue in the attic is interfered with so that the attic does not become properly aerated. This arrested pneumatization of the attic is probably the result of an infantile otitis media, perhaps from meconium in the eustachian tube. The sharply retracted pars flaccida forms a small pit or invaginated pocket. This pocket is usually just in front and above or just behind and above the short process of the malleus. If this pocket is deep enough it will gradually become filled with the desquamated cells from the outer epidermal layer of Shrapnell's membrane. As soon as the pocket is filled it begins to enlarge due to pressure. This first stage is very gradual and usually takes some years to occur. As the pocket or sac enlarges and becomes deeper, the drainage from it becomes poorer and the process accelerates. The epidermal or cholesteatomatous debris filling this sac finally becomes infected with saprophytic organisms and a foul purulent discharge results. If neglected, this cholesteatoma cavity in the attic proceeds to enlarge by bone absorption exactly as occurs in the secondary type of cholesteatoma which follows an acute necrotic otitis.

This type of cholesteatoma is called by Whittmaack the genuine or true cholesteatoma. It is characterized by its insidious onset and by the small pinhead sized attic perforation corresponding to the original depression in Shrapnell's area that represented the beginning of the process. In many cases, the enlarging cholesteatoma sac remains intact and grows only upward and backward and, therefore, remains separated from the middle ear cavity. Inflation of the tube in these cases will not result in the escape of air or pus from the attic perforation. Moreover, the hearing in these cases is remarkably good, and may be almost normal since the footplate of the stapes and the mucosa of

the middle ear are free from involvement or inflammation. In other cases, the cholesteatoma sac has ruptured and spilled its infected debris into the middle ear, or has grown down into the tympanic cavity. Careful observation will frequently disclose these deep pockets in Shrapnell's membrane in otherwise normal ears. Some of these will eventually become filled with a plug of epidermal debris.

The final stage in the development of a true cholesteatoma is that of suppuration. Since the perforation is quite high and may be obscured by a crust or a granulation, careful search with a small blunt hook is sometimes necessary before it is found. The treatment is attic irrigations until the cavity is clean, dry and odorless. If the process has been neglected for a number of years the cavity may become so large that it cannot be cleaned out through the tiny attic perforation. Surgery is then indicated.

The purpose of surgery in chronic suppurative otitis media is to enlarge the opening to the cholesteatoma cavity so that the cavity is accessible and can be kept clean, dry and inactive. There is usually no disease beyond the antrum and there is no need of opening the mastoid tip. In fact, the more we limit our operation to the cholesteatoma cavity in the attic aditus and antrum, the smaller and neater will be our completed cavity, and the easier it will be to keep clean. Too often we see patients who have had the mastoid process widely exenterated in doing a radical mastoidectomy, leaving an unnecessarily large cavity with overhanging edges that is almost impossible to keep clean.

The operation for secondary cholesteatoma is the classical radical mastoidectomy. The drum membrane and the ossicles in these cases are largely destroyed, the middle ear is lined by skin which is continuous with the cholesteatoma cavity, and all we need do is remove the outer attic wall and to take down the facial ridge until the entire cholesteatoma cavity is widely and permanently accessible through the external auditory canal.

In cases of genuine cholesteatoma where the perforation is confined to Shrapnell's area and the tympanic cavity has not been invaded, the Bondy modification of the radical mastoid operation is the operation of choice. The advantage of the Bondy operation is that it preserves better hearing than can be obtained after the classical operation.

In the management of chronic otitis media it is essential that the underlying pathology in the different types be understood, and the proper diagnosis made, in order to give the most effective treatment.

Associated Thymus Syndrome and Birth Injuries*

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The diagnosis of the thymus syndrome in infants remains an intriguing subject in any medical group and the views expressed may range from frank nihilism to rank orthodoxy. If one grants the legitimacy of the presence of the syndrome, the matter of differential diagnosis is rather difficult. Capper and Schless¹ list sixteen differential conditions which, when excluded, may permit the correct diagnosis.

With the swinging of the pendulum from one extreme to the other and with able champions in any sector of the arc, it seems to us that many, if not most, clinicians and investigators have come to the conclusion that substantiates the legitimacy of this syn-

chea observed by direct endoscopic examination in 5.8 per cent of 2,182 children of all ages with various suspected respiratory difficulties. These findings, we are sure, when coupled with other corroborating evidence, settle beyond the preadventure of a doubt the fact of thymic encroachment upon the trachea with consequent and variable symptomatology. Davison³ states that "thymus enlargement occurs in over 30 per cent of newborn infants—but in only 0.6 per cent it may cause: Cyanosis, stridor, dyspnea, cough, and dysphagia."

In this paper we present the studies of two newborn females, presenting early symptoms of the thymus syndrome and later symptoms

TABLE I

Symptoms	Thymus Syndrome	Birth Injury—Cerebral Hemorrhage	Other Conditions
Cyanosis	Most frequent	May be present	Mucus-Atelectasis
Stridor	Frequent	Absent	Laryngeal anomalies
Suffocation, choking, coughing	Frequent	Irregular breathing	Mucus, obstructions, pneumonia
Dyspnea	Frequent	Absent or infrequent	Asthma, heart
Crowing or sneezing	Often	Absent	Laryngeal anomalies
Vomiting	Infrequent	Frequent, may be projectile	Feeding, pylorospasm
Blue baby at birth	Frequent	Frequent	Drugs
Poor gain or loss in weight	Often	Frequent	Feeding
Excessive mucus	Often	Absent	Autonomic imbalance
Cervical retraction	Often	Infrequent	Meningitis
Fontanelle pressure	Absent	Most frequent	Meningitis, CNS tumor
Rigors, convulsions	Very infrequent	Quite frequent	Toxic conditions
Fever	Absent	Frequent	Any infection
Rapid pulse and respiration	Infrequent	Frequent	Toxic conditions
Local brain irritation	Absent	Frequent	Brain tumors, meningitis
Irregular pupils	Absent	Frequent	Brain tumors, meningitis
High pitched cry	Absent	Frequent	Brain tumors, meningitis
Inability to nurse	Absent	Often	Congenital defects
Spinal fluid	Clear	Frequently bloody	Trauma, spontaneous

drome, but that too frequently the diagnosis is incorrectly made. The work of the Chevalier Jacksons² indicates conclusively the presence of thymic compression of the tra-

of birth injuries. One case died at the age of 25 months, while the other is over six years of age. We were unable to find any reference in the literature to the conditions being associated and the only vague references were in tables of differential diagnosis.¹ Table 1 presents the usual symptoms

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found in each condition indicating its frequency, or importance. This table indicates the extent of the spread of these symptoms and, therefore, the difficulty of diagnosis.

Case 1. N. L. C., 6-3-36, a female full term infant, the first of twin girls of a mul-

was subnormal, the fontanelle was not under pressure but depressed, and the weight was $9\frac{3}{4}$ lbs. Cervical retraction, while not constant, was frequently present. The mental development was lagging much behind the twin who was progressing nicely. At 9



1. M. L. C. Age one year. Note clenched fists and spastic demeanor.

2. M. L. C. Fourth day, X-Ray. Thymus somewhat enlarged and much more so under fluoroscopy, both in actual practice and laboratory.

3. Twins: Age 21 months. One spastic, the other normal.

4. X-Ray: M. A., first day; showing massively enlarged thymus.

tipara 5, enjoyed a normal birth. The weight was 6 lbs, and the sister's $6\frac{1}{2}$ lbs. All appeared well until the third day when one twin (N.L.C.) cried out frequently and refused the breast. During the night she threw her head back, vomited slightly and had a rigor or mild spasm, then quieted down until the next day when seen by us. Several mild convulsions had occurred and much mucus was present. Cervical retraction was noted and a crowing respiratory noise was present, as was moderate cyanosis, which came and went, and some dysphagia. The tissue was not good and the skin was dry, and severe icterus neonatorum was present. The lungs and heart were normal.

A tentative diagnosis of thymus was made. The x-ray plate, and particularly the fluoroscope, showed a moderate thymus shadow and treatment with x-ray was administered. Improvement was soon noted. The feeding was changed with some improvement and hypodermoclysis was resorted to. At 3 weeks of age on leaving the hospital the weight was 5 lbs. 14 oz. and it was definitely evident that she was a feeding problem.

At three months the baby cried excessively, the appetite was poor, the tissue turgor

months she suffered a severe attack of tonsillitis and pharyngitis with temperature to 105 degree F. rectal and, while she had been somewhat hypertonic in her reactions, she afterwards showed more marked nervous reactions which, as she became older, increased in intensity until when under a year of age we were ready to diagnose a birth injury or some other cerebral defect. A severe broncho-pneumonia appeared at 14 months which she survived. She gradually became a typical moderately spastic child with rigors, some opisthotonos, and apparent idiocy. She died at the age of 25 months following a ruptured appendix and peritonitis.

Case 2. 3-30-34, M. M., a white female newborn, weight 8 lbs, 14 ozs., full term of multipara two. Low forceps were used, the cord was about the baby's neck twice, and asphyxia livida was present for 45 minutes. In the first 20 hours of life there were at least 10 severe attacks of cyanosis that quietly came and went, lasting from 15 to 45 minutes. The lungs and heart appeared normal. The x-ray plate showed the thymus shadow to be quite large filling two-thirds to three-fourths of the upper thorax. X-ray treatment was begun at once. The second day showed much improvement but one

slight rigor was noted. Cyanosis appeared only two or three times and only while feeding. While there was some crying, deep sleep was the rule. The birth weight was not regained until the sixth week and not doubled until the thirteenth month. A second x-ray at 2½ months showed the thymic shadow half the size as at birth. There was much mild nervousness and spasmophilia was considered. Three colds and one pyuria had appeared by six months and anemia was present. Tonics, intramuscular blood, and small doses of insulin did not greatly improve the appetite. At six months the head slumped part of the time and the mentality appeared retarded. At the age of thirteen months the birth weight had been doubled and the nutrition was poor. She could not sit up by herself. The head was held up quite well but slumping frequently occurred. She held her own bottle at 18 months, crawled at three years, and sat alone at five years. She has never walked and coordination is poor. The mentality, while subnormal, is superior to the motor system. The residual picture is that of a mild to moderate birth injury without spasticity.

DISCUSSION

These are our only cases with the diagnoses of syndrome and birth injury. Inasmuch as most thymus symptoms occur at or shortly after birth and, inasmuch as all birth injuries occur before or during birth, although the symptoms may be delayed, is it not rather surprising that these two conditions do not overlap more often than indicated by a review of the literature? Or is the position of a confrere correct when he remarked, "One should never make the mistake of diagnosing a thymus and then have to change to intracranial hemorrhage? All such are birth injuries!"

Case 1, the more severe of the two, both in

respect to early and late symptoms, was unmistakably a case of birth injury. The symptoms of vomiting, cyanosis, cervical retraction, and crowing can be explained by an injury or hemorrhage at or before birth, and this she probably had. But likewise such are thymus⁴ symptoms, also. In addition, the thymic shadow as shown by the x-ray was moderately enlarged; the early x-ray treatments were of some benefit; and as the thymic shadow became smaller, the symptoms abated.

Case 2 presented an immense thymic shadow that became much smaller with treatments and the passing of time, and the symptoms lessened markedly in 24 to 36 hours, the remaining cyanosis being only low grade, the crowing much less, and dysphagia and coughing being present only with food intake. While there was marked improvement in the clinical picture, the infant was never normal.

As we review these two case histories, we might be permitted to doubt the legitimacy of the thymus syndrome in case 1, but in case 2, there can be no question.

CONCLUSION

1. We have presented two cases of associated thymus syndrome and birth injury.

2. We conclude, not only from our experience but more particularly from a study of the available literature in which we do not find any such cases recorded, that such an association may be considered as quite rare.

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Phorias: Diagnosis and Treatment*

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We may define phoria as the tendency of the eyes to deviate with respect to each other in binocular fixation. Actually there is no deviation for any length of time, because if there should be the phoria becomes a squint. We may, therefore, consider phorias simply as tendencies to squint. Our knowledge of

the mechanism which controls binocular fixation, and which keeps these deviation tendencies under control is rather limited but we are able to understand some of the actions of the mechanism and to use this knowledge to a limited extent in the diagnosis and treatment of phorias.

It is of considerable importance in discussing diagnosis and treatment of the phorias to enumerate the symptoms which they may

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bring about. Practically all of the symptoms are obviously subjective and they are essentially those of eye strain. Our phoria patients may complain of frontal headache, increased toward evening; pain in the eyes, especially after watching some object intently for a time. Conjunctival hyperaemia and dizziness may also be present. Cases of high degree of phoria may complain of momentary diplopia, especially if the fusion sense is weak. Finally many of these patients complain of a tendency to tire rapidly and a tendency to become extremely nervous. We should bear in mind the fact that a majority of the phorias are small in degree and do not present any symptoms. The same may be true in cases of phorias of higher degree and, in those cases which are free of any symptoms, no treatment is indicated.

Diagnosis of the phorias (or of muscle balance as we often call it) should be a major step in every refraction. There are many procedures which may be used in making this diagnosis, most of which have their merits, and all of which have their limitations. The chief difficulty with all methods lies in the fact that we must place objects in front of one or both eyes in order to break up fusion and in doing this we create artificial circumstances under which the position of the eyes may, and often does, vary. Bielchowsky, Verhoeff, Lancaster and others have recently devised methods which help to overcome this difficulty but for the most part they are too technical at present to be included in the routine refraction.

In our own work we have adhered to some of the older, more common, methods. Our routine is as follows: History, inspection and visual acuity of each eye, followed by investigation of rotation in the six cardinal directions, then test for near point of convergence. This test we feel is quite important because it frequently gives us one of our first clues toward the diagnosis of exophoria, and at the same time it gives us some idea of the patient's ability to fixate binocularly. The routine retinoscopy and manifest refraction is now completed; then, with our accepted lenses still in the trial frame or refractor, we proceed to test for muscle balance. A Maddox rod is placed before the right eye and a red glass before the left, first with the streak of light vertical for horizontal position, then with the streak horizontal for the vertical deviations. If there is a deviation of the eyes it is measured by means of prisms placed in proper position before the red glass to neutralize that deviation. Many patients will have a tendency to bring the line and dot together if left for a short time but this is readily detected and may be overcome by covering one or both eyes and asking the patient to give positions of the line and dot

immediately when the eyes are uncovered. The distance ductions are now taken with the aid of a simple spot of light for fixation and rotary prisms before one or both eyes for displacement of the images. In measuring horizontal ductions we are much more interested in the ratio between convergence and divergence than in the actual amount of each. This ratio should be at least 2:1 and preferably 3:1 or even 4:1. Patients with as little as 3 prism diopters of divergence are, unless there is marked esophoria, usually comfortable. The vertical ductions have a great limitation, seldom attaining more than 4 prism diopters of sursumduction and are usually limited to two or three prism diopters. Knowledge of the scope of sursumduction offers considerable insight as to the probabilities of hyper-phoria causing strain.

The only duction measurement of importance for near is convergence, provided the distance phorias and ductions are within normal limits. Convergence should amount to approximately 30 prism diopters at 14 inches, as measured with prisms and black dot on white card, for fixation.

The horizontal phorias for near are measured by the dissociation method, that is prism 6 prism diopters base down before one eye and 6 prism diopters base up before the other so that the eyes are unable to fuse the images of a card at 14 inches. The horizontal relationship of the two images made visible by this dissociation is an indication of the horizontal phoria and is measured with prisms.

As stated previously, these procedures are carried out with the patient wearing his correction and in the case of presbyopes the near ductions and phorias are taken with the reading add also in place. At this point, in the case of exophoria or esophoria found by the above methods, the horizontal phorias are rechecked without correction in order to determine what effect, if any, accommodation may have on the condition.

In addition to the above we usually check the phorias by means of the simple paralax or cover test in which movement of the eye under cover is observed as it is uncovered and moves to fix. This phoria is measured simply by interposing the proper prism required to neutralize such motion.

Objections to the above methods are as follows: The Maddox rod does not entirely break up fusion, and the streak may appear close and cause excessive convergence. In addition a bright light may stimulate convergence. The cover test may give false findings due to the fact that when one eye is covered we have created an artificial condition and the eye may take up a position en-

tirely different to that it would maintain if fixation was present. A good indication of this fact is presented by those cases of anaphoria (so-called double hyper-phoria) sometimes seen, in which each eye in turn moves under cover.

In spite of these objections we have found that the above methods give satisfactory results in routine practice when faults are kept in mind and reasonable efforts made to overcome them.

Several other methods for the determination of phorias have been developed such as the Lancaster screen and more recently, Verhoeff's tubes with diaphragm and vertical lines, but these have not eliminated the factor of creating an artificial state of binocular fixation and at the same time require considerable special expensive equipment so that I think they may be disregarded except in special cases.

The using of our routine methods described above we are able to elicit and to measure the following phorias:

1. Exophoria due to a convergence insufficiency. It may or may not show in the tests made at distance but will show in the near tests. These cases also usually show a remote near point of convergence.

2. Exophoria due to divergence excess, or combined with convergence insufficiency which show a tendency to lateral deviation both for distance and near, the deviation being greater toward the near point of convergence.

3. Esophoria due to divergence insufficiency shows in the distance test as deviation, and as weak prism divergence power, less than 3 prism diopters.

4. Esophoria due to convergence excess or combined with divergence insufficiency shows increase with near test combined with an approaching N.P.C. and high prism convergence power. This type in our experience is frequently associated with hyperopia or presbyopia or both.

Hyper-phoria may appear either right, left, singly or combined with lateral phoria, usually exophoria due to convergence insufficiency. The vertical phorias may be comitant (the same in all fields) or dissociated (double hyper-phoria or the covered eye moves up and down) or increased in one field. We may see a pseudo-paretic hyper-phoria which is really over action of an inferior oblique muscle and the true paretic hyperphoria which is most often manifest in a weakness of the superior oblique. These last two are obviously increased in the field of action of the offending muscle and in order

to make a definite diagnosis it may be necessary to use the screen and paralax method. This test consists of placing a red glass before one eye, then by using a small light for fixation plotting the diplopia of the patient in the six cardinal fields, usually at a distance of one meter.

As stated earlier in the paper we do our refraction first, then if the phoria is not too obviously the cause of the patient's symptoms we often go ahead and prescribe glasses for correction to determine if they will relieve the symptoms. If we do not believe correction of the refractive error alone will bring about relief we have a choice of one or more of three methods with which to bring about sufficient equilibrium to make the patient comfortable. These are orthoptic training, prisms and surgery. In treatment of exophoria due to convergence insufficiency it seems logical that an attempt should be made to build up the convergence power. This is often successfully done by convergence excess on a major amblyoscope with prism base-out exercises at home twice a day. Exophoria due to divergence excess is managed in the same way with addition of divergence exercises to stimulate fusion and to prevent the development of intermittent divergent squint.

Esophoria due to divergence insufficiency may be given orthoptic training with divergence exercises on the major amblyoscope, stereoscope and etc. Additional orthoptic procedures are the Remy separator, prisms base-in with a receding test object and home exercises on the hand stereoscope with graduated divergence charts. Esophoria due to convergence excess is frequently associated with hyperopia and may be improved or relieved by full plus correction. Orthoptic measures consist of divergence exercises without glasses. The same instruments mentioned above under esophoria are used, and in addition, the hand diploscope, and bar reading, together with divergence and convergence exercise on a major amblyoscope or stereoscope to stimulate the amplitude of fusion and to maintain or correct the convergence accommodation ration. Esophoria, whether due to convergence excess or divergence insufficiency, has, in our hands, responded poorly to orthoptic training unless a considerable portion of the deviation is relieved by the use of glasses.

We have also found orthoptic training practically useless in hyper-phorias unless they were associated with exophoria, esophoria or weak fusion. When either of these conditions are present in combination with hyper-phoria the latter will frequently correct itself upon correction of the associated condition. May I add at this point that con-

vergence and divergence exercises usually are a great aid in improving a weak fusion sense and this alone may relieve the symptoms of many of the phorias.

Prisms constitute our most important means of managing the hyper-phorias. When the hyper-phoria is consistent, that is, when it is comitant and not variable, we do not hesitate to incorporate in the correction the least amount of prism which will give comfort to the patient. This may be, and often is, less than half the amount of the existing hyper-phoria. If the prism strength is 1 prism diopter or more it is equally divided between the two lenses. The dissociated hyper-phorias will not respond to orthoptic training and prisms are not practical due to variation in the various fields so that surgery offers the method of choice unless the condition disappears spontaneously. For paresis this consists in weakening the antagonistic muscle by tenotomy. Overaction of the inferior oblique requires shortening of the opposite superior rectus. We have had little experience with this type of muscle surgery, therefore, cannot discuss the details and results.

Prisms may be used to advantage in the horizontal phorias which do not respond to orthoptic training. The most frequent type in this case is esophoria due to divergence insufficiency. It is not common in our experience to find an exophoria which will not respond to convergence exercises. One exception is the high convergence insufficiency sometimes found in debilitated presbyopes. These patients will usually be made comfortable by including prism base in, in the reading add. This prism must necessarily be quite small and may be augmented to a limited degree by decentering the segments to give the effect of additional prism base-in.

During orthoptic training we like to keep a close watch on the patient from the beginning. We have him report to the office two or preferably three times a week for a 30-minute period of work with the stereoptopter during which time he is watched

and directed. These patients require constant encouragement because the work is tedious and technical and will do more harm than good unless carried out properly. It requires the greatest amount of attention and effort on the part of the patient. The attention especially of younger patients is better maintained if we have a variety of interesting targets which may be rotated in the instrument. This fact, too, is the chief advantage of having several instruments or methods to be used in training.

This office treatment is usually supplemented with daily home training of suitable type as described above, morning and evening at home at an appointed time. We are usually able to judge after the first two or three periods whether or not the patient is going to respond. If there has been no response after the first five or six periods, we do not expect much from such training and are prone to discontinue its use. When the patient does respond he will improve rather rapidly at first then begin to level off and this failure to continue improvement indicates that the maximum effect is being reached and the time for discontinuing training is at hand. The patient should be given a period of 4-6 weeks rest following completion of training then asked to return for recheck in order to see if he is retaining the reserve which have been developed. If the reserve has been cut down further training is indicated. It will be noted that we have made no mention of cyclophoria in this discussion. The reason for this omission is that we do not know how to diagnose and treat this type of phoria.

CONCLUSION

We believe that diagnosis of phorias should be a routine part of every refraction and that an attempt should be made to compensate those producing symptoms. Orthoptic training is a valuable adjunct in the management of these cases but much more research work will be required before such training will find its proper place in the general practice of ophthalmologists.

The Use of Sulfapyridine in the Treatment of Pneumonia in Children*

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The last few years we have seen remarkable strides in chemotherapy used in the

treatment of many diseases but none has been so dramatic or so efficient as the treatment of pneumonia by the use of sulfapyridine. The serums have been of some help in reducing mortality and morbidity but the ex-

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pense of serums and difficulty in securing sputa to type had reduced their efficiency in treating pneumonia in children.

Since we now have a specific treatment, that is sulfapyridine and the serums, it is as important to make an early definite and accurate diagnosis of pneumonia as of diphtheria or appendicitis. In my experience the use of these two specific measures of therapy have been as efficient as the specifics for the above named diseases. We all know how difficult it is at times to make a diagnosis of pneumonia in children, especially those who do not cooperate very well by the routine physical examination. We have been using x-ray of chest much more frequently, in addition we have been using a pharyngeal swab. In using this method to collect material for making smears one should go deep and be sure to gag the patient. Even this is not always successful; in fact, we have only been able to secure positive sputum in about 50 per cent of patients even when proven to have pneumonia, but if we have a respiratory infection and pneumococci are found on direct smear from pharynx when obtained by this method, it should be presumptive evidence that the child has pneumonia. I have had some difficulty in getting the type identified even when I felt sure that the smear was positive due to lack of material, but if sulfapyridine continues to do as excellent as in the past I am not going to worry about the type so much. All of those we have been able to type have been type I or II.

Sulfapyridine has been effective in both lobar and broncho-pneumonia. However, it has usually required longer to bring the temperature of the infant to normal in the broncho-pneumonia than in the lobar. I have thought that perhaps this may be due to the duration of the disease before treatment is begun, rather than to the lack of effectiveness of the drug.

The action of this drug is to inhibit the growth of the pneumococcus; the body must build its own antitoxin to neutralize the toxin already in the body and to kill those organisms already present. If the dosage is not sufficient it seems to have but very little effect on the course of the disease. This is well illustrated by the case of B.J.M. a fourteen month old child who had been ill for one week with broncho-pneumonia and had been receiving a dose of one grain of sulfapyridine every four hours and had vomited some of the drug when it was given her. Apparently she had run the usual course of a mild broncho-pneumonia. She had at no time

shown any definite evidence of improvement and had continued to run fever for the full seven days. When the dosage of the drug was increased to three and three-quarters grain every four hours with an initial dose of three capsules, her temperature was normal in twenty-four hours. This child also had a pyelitis or at least a pyuria on admission to the hospital; it was completely clear in three days with no other medication and remained clear on later check at weekly intervals for three weeks.

The dosage we have used in treatment of pneumonia has been as follows: Age 1-3 months 7.7 grs. to $11\frac{1}{4}$ grs., that is two to three capsules daily. 3-6 months— $11\frac{1}{4}$ to $15\frac{1}{2}$ grs., 3-4 capsules daily. From age of six months until patient is about 12 years, I have used approximately $\frac{3}{4}$ gr. per lb. of body weight. The initial dose is always one-third to one-half the calculated twenty-four hour dosage then the daily dose is divided in one-sixth or one-fourth and given at four or six hour intervals. Using this dosage there has been a prompt response. The temperature in every instance has returned to normal within forty-eight hours. As soon as the temperature has returned to normal we reduce the dosage one-half the original dose, continue at this level for two days, then decrease that dose one-half for two days and then discontinue the drug. There has been a reduction of toxemia and we have not seen any complications following pneumonia such as delayed resolution, empyema, etc.

The complications which result from the drug are: (1) Nausea and vomiting—This is a most frequent and sometimes distressing complication, resulting in inability to administer the drug in sufficient dosage. This is present oftentimes when the drug is administered parenterally, but we have all seen some patients who had severe nausea and vomiting with pneumonia who were not given any of the drug. I have sometimes wondered if all of nausea and vomiting were the result of the drug or sometimes due to general toxemia. If we are unable to give the drug by mouth we have taken the tablets or capsules dissolved or suspended in normal saline when it was boiling, allowed the solution to cool then injected this subcutaneously using a regular hypodermoclysis procedure or using a syringe and needle. The method used depended upon our desire for administration of fluids.

(2) Anemia—We have not noticed any marked anemia. Some have shown a secondary anemia which was treated with iron

and all showed a prompt response to treatment.

(3) Agranulocytosis—The literature has cautioned all of us about appearance and danger of agranulocytosis during the administration of sulfapyridine. We have not had the misfortune to encounter this complication. However when this complication arises, one should discontinue the drug immediately, use transfusions if necessary. I do not know what effect pentnucleotides would have upon this type of agranulocytosis but it certainly might be of some value.

(4) Hematuria—During the administration of sulfapyridine, crystals appear in the urine in some quantities and in some instances are deposited as calculi in the kidney pelvis or ureter. We have not had any such complication, but reports have shown a complete anuria due to blocking of ureters by such calculi. These calculi can be washed out by the use of warm distilled water through cystoscope. It is thought that concentration in the urine may be responsible for this. There should always be plenty of fluid given to keep the urinary output at sufficient level and decrease concentration of sulfapyridine in the urine.

The ideal way to treat these patients would be to send them to hospital for x-ray, blood count, sputum examination and typing where we suspect pneumonia and cannot be certain from our physical findings or even if we can be certain we have a definite pneumonia the people have not been sufficiently educated to allow us to do this in every instance even when finances is not a major question. Ever since I have been practicing medicine, and I am not an old man, I have often heard the remark from doctors that they would rather treat pneumonia in the home than in the hospital. So far as I am concerned that was and always has been a fallacy even before advent of sulfapyridine. Before we had a specific therapy for pneumonia we could treat the patient's symptoms and watch for developments until we could make a definite diagnosis, but now when a patient can be cured in three or four days with very little danger to him, we should educate our public to cooperate with us. We have all seen a patient who has had several blood counts and was under observation for 24-48 hours with a suspected appendicitis but a doctor is supposed to be able to take his stethoscope and tell the patient in five minutes whether he has pneumonia, "congestion in his lungs," whether his trouble is just in his "bronchial tubes" or in his lungs. It seems much more reasonable to me to be frank with these people and tell them that you suspect he may

have pneumonia but only by further study and observation can we find out definitely.

Now, if our patient cannot financially afford or will not let us give him the very best in our power, do the next best thing for him and put him on the specific therapy which may also help some other types of respiratory infections, and keep a careful check on him. If we cannot do the blood counts, at least we can do the routine urinalysis and check him daily from a general physical standpoint.

Sulfapyridine has been 100 per cent efficient in my experience and to my knowledge there has not been a death in The Valley View Hospital this year from pneumonia, per se in which sulfapyridine was used. The mortality varies from year to year, but I can not recall any year in which we have not lost some patients before this year. It may require several years to evaluate the value of this drug but I am already convinced that we have a drug that is going to lower our mortality and reduce the morbidity to a great extent.

If I were practicing medicine where all routine methods of checking blood and urine were not available, I most certainly would use sulfapyridine even though there is a certain element of danger from the drug as I do not feel that the occurrence of severe fatal complications is nearly so frequent as the deaths from pneumonia.

In all of our enthusiasm over the miracle of sulfapyridine we should not forget the use of serum in those patients who are very toxic and show evidence of very little resistance and especially if they are found to have a pneumococcic septicemia proven by blood culture.

CONCLUSIONS

1. Sulfapyridine is a highly efficient drug in the treatment of pneumococcic pneumonia and has been a great adjunct to our armamentarium in fighting this disease.
2. We should educate the public to accept more complete medical care in cases of respiratory infection of doubtful origin.
3. We should not depend entirely upon this drug, but should use all means at our command to combat pneumonia.
4. We should not hesitate to use it even when we cannot have all laboratory checks on our patients which we have thought essential before the drug is given.

Neuroses of the Pharynx^{*}

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This subject, if gone into thoroughly, and all its different ramifications discussed in detail, would fill many volumes; an obvious impossibility here. It is, therefore, intended that this paper should be but a summary of many possibilities any of which may be encountered at any time in the management of pharyngeal complaints, and no attempt at completeness in differential diagnosis has been made.

Neurosis in this instance is used in a broad sense and does not necessarily indicate a psychoneurosis or hysterical manifestation affecting the pharynx.

Grossly, the neuroses may be divided into sensory and motor groups, each of which will be considered separately.

Undoubtedly, the most important single factor concerned in a consideration of this aspect of throat work is determination of the cause of whatever abnormal sensation or motion is present, and entirely too often this type of patient classified as neurotic, hysterical, or hypersensitive because superficial inspection of the throat reveals little or nothing. It is true that many belong in this grouping, but it is not the rule, and a diligent search will usually uncover some basis for the vague complaint. We do not see very many true "neurotic" throat complaints, but we do see quite a number of patients with marked discomfort from a mild chronic pharyngitis which in more stable individuals produces no symptoms whatever, and this wide variation in individuals is an important thing to remember.

The most common complaints of these patients are in the nature of a hyperaesthesia or a paraesthesia; e. g. hyperactive gag reflexes, feeling of foreign body in the throat, dryness, itching, burning and often actual pain. In the case of gagging, and slight chronic irritation of the throat, there is usually found a chronic posterior pharyngitis of some degree associated with excessive use of tobacco or alcohol or a chronic post nasal

discharge. Treatment, of course, depends upon elimination of the irritant, which in case of a chronic sinusitis will probably mean surgery. Another possibility is that of chronic nonpurulent post nasal discharge resulting from nasal deformity (septal deflections or hypertrophied turbinates) and poor ventilation. Many cases of gagging and continually sore throat will clear upon having an open airway established in the nose which could never be benefitted by local applications to the posterior pharynx.

The complaint may be that of a foreign body lodged in the throat producing a sticking sensation on swallowing, and no evidence of anything unusual found on first examination. It may be found to be due to a concretion in a tonsil, an inflamed bit of lymphoid tissue in the nasopharynx, or a tiny ulceration behind a pillar or on the posterior surface of the uvula where in deglutition two opposing surfaces of mucous membrane are forced together. An excessively long styloid process, and rigid or calcified stylohyoid ligaments may produce considerable discomfort in the pharynx, with nothing to be seen; and burning, tickling or itching sensations in the soft palate and nasopharynx may be found to be caused by an inflammatory condition in the Eustachian tubes.

Various perverse sensations in the throat may be caused by chronic nephritis, diabetes, pemphigus, thrush, hepatic cirrhosis, or uncompensated heart disease. Gastro-intestinal disorders associated with unwise eating and too little exercise, lingual thyroids, and thyroids are at the base of many complaints referred by the patient to the pharynx. Excessive use of the voice mainly affects the larynx but may also extend to the pharynx, and pulsating vessels in the posterior pharyngeal wall as well as an elongated uvula may produce a variety of complaints although Goldsmith says entirely too much surgery is done on the latter. Hardened cerumen in the auditory canal may be the source of disagreeable sensations in the throat accompanied by a cough, and we have seen a few cases of painful throats with entirely negative physical findings which obtained relief through

^{*}Read before the Section on Eye, Ear, Nose and Throat, Annual Session, Oklahoma State Medical Association, May 7, 1940, in Tulsa.

irrigation of the antrum on the affected side. The ear condition is a familiar one and is due to the reflex through the tenth nerve from the posterior canal wall, but the antral condition probably represents a mild sphenopalatine ganglion neuralgia which should also be mentioned here. In the same way, actual pharyngeal discomfort often produces ear symptoms via the auricular branch of the ninth nerve. There is one case of ninth nerve neuralgia, with severe throat pain, which proved at operation to be secondary to an abscess in the petrous portion of the temporal bone.

Obviously the treatment of all of the above conditions is the removal of the cause. Few show actual pathological findings on inspection of the pharynx but all have good reason to complain. If the definite causes can be pretty well ruled out and the patient safely placed as psycho-neurotic or hypersensitive then we must do one of two things. The hypersensitive patient, in order to produce a more tolerant pharynx may be treated often, and even given instructions in post nasal swabbing for home use if too troublesome as an office patient, but not the hypersensitive one who is such a "good patient" by reason of practice with a mirror at home in an attempt to find something wrong. His attention should be distracted in any way possible from himself and his throat. Both of the last two types of cases will respond better to improvement in general health and particularly with regard to the nervous system to local treatment.

Pharyngeal anesthesia is the least common of the sensation neuroses and is easily mistaken due to the wide normal variations in sensitivity. Singers are usually very tolerant of manipulation due to training and control of the throat muscles, and chronic pharyngitis cases having a glazed membrane and viscid, tenacious secretion are more or less insensitive although at some previous time they have passed through a hyperirritable stage. These are not true anesthetics but the possibilities for mistake must be borne in mind. The unilateral anesthesia is practically always hysterical. Peripheral lesions caused by tumors may produce it, as well as central lesions due to progressive bulbar paralysis, general paresis, meningitis, tumors, and disseminated sclerosis but the associated symptoms in organic lesions should make the differential diagnosis (from hysteria) a rather simple matter.

In the true case of anesthesia there is little or no complaint other than slight roughness and there is danger of aspiration pneumonia, particularly in the cases involving the superior laryngeal nerve which supplies the

lowest part of the pharynx, as well as the mucous membrane of the larynx.

The motor neuroses of the pharynx are spasmodic and paralytic. The underlying causes of the spasmodic affections are globus hystericus (usually found in the irritable, psycho-neurotic woman), paralysis agitans, chorea, hyprophobia, cerebellar tumors and oedema. In the case of globus hystericus, it must also be remembered that while it is usually hysterical in origin, it may be a spasm of the cricopharyngeus caused by an ulcer (malignant or not) at the opening to the oesophagus. Tonic spasms may be functional or associated with hydrophobia, tetanus, tumors pressing on the bulb, tabes, tonsillitis, or peritonsillar abscess.

Transient tonic spasms may follow the use of Eustachian catheters, they may occur in lateral pharyngitis, acute lingual tonsillitis or even after swallowing a large bolus of food too rapidly. These do not as a rule last long but occasional cases have been so persistent as to be mistaken for oesophageal stricture.

Chronic spasm may result from irritation of the fifth nerve, lead, mercury, alcohol, or strychnine poisoning, or disseminated sclerosis, and is occasionally seen in convulsive tic, and mild epilepsy. Pharyngeal nystagmus, similar to optic nystagmus, is one of the symptoms of grave cerebellar disease but may be due to a local lesion in the upper respiratory tract. It may affect the soft palate or posterior pharyngeal wall, and be associated with synchronous movements in the arytenoid cartilage with rapid adduction of the vocal cords. It may be unilateral and the rate varies from a gentle to and fro movement to as high as 200 per minute. An annoying clicking sound, audible both to the patient and others, is produced by the opening and closing of the Eustachian tube orifice, and may be mistakenly localized in the middle ear by the examiner. The pharyngeal contractions may be associated with similar movements in the tongue, oesophagus, larynx, ears and eyes in cases of organic brain lesions.

Examination of the paralytic throat reveals loss of reflexes, loss of movement of the palate and the palate is downward and forward in position. Sensations may or may not be impaired and if the paralysis is unilateral the palate is drawn upward and deviated to the unaffected side. In the diagnosis Moure says that when the paralysis is unilateral and due to a motor nerve lesion rather than to a local pharyngeal inflammation, similar changes are always found in the larynx. It is important to distinguish between a true paralysis and such a lesion because many things may stimulate the former. Contrac-

tion and distortion of a soft palate following tonsillectomy may produce a very effectively paralyzed palate. Occasionally an insufficient soft palate occurs although fortunately it is a rare condition. The hard palate in these cases is normal but the soft portion is too short to close off the nasopharynx for swallowing. Also painful lesions in the laryngo-pharynx may produce symptoms suggestive of paralysis, notably tuberculosis involving the epiglottis. In old people or very debilitated ones with very weak muscular action, the weakness may prevent satisfactory grasping action on the part of the pharyngeal muscles and the food bolus is not properly propelled toward the oesophagus.

A true paralysis, if slight, may produce few or no symptoms, but a severe one results in food and liquids being regurgitated through the nose, and the patient is unable to whistle, suck, blow out the cheeks or speak distinctly.

Causes may be listed as nuclear, intracranial and extracranial. The nuclear includes bulbar paralysis, localized hemorrhage, acute and chronic anterior poliomyelitis, embolus, syphilis and tuberculosis.

The intracranial (infranuclear) group is made up of tumors and pachymeningitis, while the extracranial has such conditions as trauma or tumors at the base of the skull, jugular thrombosis, enlarged glands, aneurysm of the internal carotid, diphtheria, syphilis, localized trauma in the pharynx and lead poisoning.

The central lesions are a common cause and usually cause either bilateral paralysis (as in nuclear paralysis of the hypo-glossal) or paralysis of several nerves because of the close proximity of the nuclei in the medulla. Infranuclear lesions are most commonly seen in simultaneous paralysis of the ninth, tenth and eleventh nerves by some abnormality in the jugular foramen.

A careful examination of the nasopharynx is always necessary to preclude the possibility of overlooking a tumor here which may have extended intracranially.

Treatment, as in all other cases, is symptomatic and directed at the cause, but in this instance is wholly unsatisfactory. Diphtheritic and hysterical cases may improve, but the others have little if any chance. Most of the tumors are inaccessible and any destructive lesion in the bulb is practically hopeless.

In conclusion I should like to reiterate that no attempt has been made to be complete on this subject and the material is a summary of most of the available literature, presented with the idea of calling to mind the many possibilities which present themselves to the

examiner of a throat when he finds little or nothing on superficial inspection.

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WHY DOCTORS WONDER

Throughout the land today doctors quietly are going about the age-old task of caring for the sick, with no thought of collusion or conniving for selfish interests, no schemes for higher fees, no demands of double pay for over-time, no organized groups standing in the way of defense, no agents or agitators urging defiance of government and public interests.

As they pursue this course night and day, many of them neglecting private interests to help maintain public health and, in this emergency, to accept military service or to participate in the examination of draftees, naturally they wonder how the Department of Justice, at this critical period in the history of our country, could spare the time to oppose the American Medical Association's effort to preserve the time-honored personal relationship between patient and doctor which, with departmental aid, was being threatened at the very seat of the government. Would it not have been more in keeping with the function of this important Department of the Government to have spent the time combatting the forces seeking to destroy the foundations of our democracy?

At this moment the health record in the District of Columbia is the lowest in the land and stands as a serious reflection upon the Federal Government. Instead of throwing down the bars and opening the way for organized groups which destroy the fundamental principles of medical care, with increasing morbidity and mortality, already too high in the city of Washington, the government should seriously consider its responsibility for the health of the District of Columbia and make adequate appropriations for the protection of the people in this small area where Uncle Sam holds the reins.

Medicine as practiced in the United States today is too old and too fundamental to the people at large to be seriously altered by a jury decision or a court ruling.



The typical dermatitis of pellagra, characterized during its early stages by tenderness and erythema, and subsequently by thickening of the skin, and desquamation, not infrequently involves the lower extremities, especially the anterior aspects of the feet, ankles, legs, and knees.

The administration of nicotinic acid in appropriate doses in cases of pellagra leads not only to the clearing of the cutaneous manifestations of the disease but also to the disappearance of the alimentary lesions and symptoms, and to a profound improvement in the mental symptoms when the latter are the result of inadequate intake of nicotinic acid.

Pellagra, however, is frequently accompanied by evidences of deficiencies of other factors of the vitamin B complex, such as polyneuritis (a manifestation of vitamin B₁ deficiency). In the diets of such patients it may be necessary to insure the presence of foods rich in the vitamin B complex, or to administer—concurrently with the nicotinic acid—thiamine hydrochloride, riboflavin, and, in some instances, pyridoxine hydrochloride.



Nicotinic acid is pyridine-3-carboxylic acid— $C_6H_5O_2N$. It is recognized as a specific in the treatment of the disease of dogs known as blacktongue and in the treatment of human pellagra.

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• THE PRESIDENT'S PAGE •

For the past eleven months I have enjoyed the honor conferred upon me by the Association in my election to its presidency. I have earnestly endeavored to discharge the duties of the office to the best of my ability.

It is said that statesmen "point with pride and view with alarm." I have not in the past nor shall I in the future follow this maxim.

I am firmly convinced, after my year as your president, that Medicine must assume a larger and broader responsibility in problems concerning health than it has in the past. Medicine must lead, rather than be led. Local, state, and national problems must not be dispensed with by a shrug of the shoulders and an abiding faith that all will be right in the end. It is my honest conviction that every physician, regardless of whether he is practicing in a city or a small community, must make an additional effort to practice modern and progressive medicine in every sense of the word.

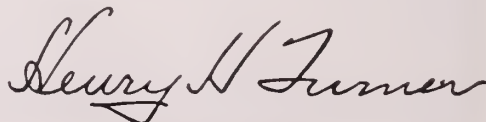
During the past two years, this country entered a critical period in history. Social, economic, and military problems eventually have become definite problems of the profession. Your Association has tried to meet these situations with leadership and cooperation rather than criticism or passiveness. That these have been met is well evidenced by the Association's cooperation with the A. M. A. Program on Medical Preparedness, the establishment of Group Hospital Service, cooperation with the Public Health Department, Public Welfare Department, State Insurance Fund, Women's Field Army for the Control of Cancer, N. Y. A., Selective Service, and by a wider and greater diversification in the makeup of the Journal.

Not mentioned above is the policy of the Association concerning its public relations. Our interest has not been in the field of legislation, but rather in the dissemination of information on matters of public health and welfare.

Though there has been a decrease in the population of Oklahoma, the membership of the State Medical Association has increased, and this is due entirely to the efforts of the county societies in establishing and continuing regular meetings, improving scientific programs, and their realization of the importance of organization.

During my term of office, I have been impressed with the fact that the effectiveness of a state association is dependent upon the activities of the county societies and is in direct ratio to the enthusiasm and leadership of the officers. In this day and age, leaders must be selected on merit, not on sentiment.

If my administration has been satisfactory in any manner, credit should be given to those who have unstintingly given of their time and ability in accepting committee appointments and the faithfulness with which they have discharged their responsibilities; to them I am indebted. I know that those who follow me as president will have the same cooperation. The presidency has been an honor for which I shall be eternally grateful.



President.



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EDITORIALS

ANNUAL MEETING

Every member has, of course, noted the dates of the Annual Meeting in this Journal as well as in previous editions and an unusually interesting program with several innovations has been prepared.

Monday at 4:30 the profession of the state will do honor to the memory of LeRoy Long with the dedication of a plaque in his memory. The ceremony will take place at the Medical School where he served as Dean and did much to promote and improve the standards of the institution.

Monday evening all of the members of the State Association and the guest speakers will be guests at a buffet supper served by the Oklahoma County Medical Association. The program for the meeting will be conducted by Col. W. Lee Hart, Surgeon-General, Eighth Corps Area, Ft. Sam Houston, and Col. Raymond W. Bliss, Ft. Sill, who has recently returned from an assignment in London, England.

Monday afternoon from 1:30 to 4 o'clock there will be an interesting program for the members of the profession who are doing Selective Service examinations. Lieut. Col. R. H. Eanes, Washington, D. C., second in command for Selective Service, and Gov. Leon C. Phillips will appear upon the program.

The most prominent social event of the meeting and one especially attractive to the ladies will be Tuesday evening at a dinner dance at which time the inauguration of the president for this year will be held. The dance will be preceded by an accoutrement hour for the doctors and their wives.

On Wednesday will be held the Second Annual Secretaries' conference, an innovation started last year at the Tulsa meeting. This conference is extremely important to the county secretaries and should even be attended by all other officers of county societies who are present.

All scientific sessions, sections, commercial exhibits and scientific exhibits will be in the Silver Glade room of the Skirvin Tower. As usual, the Councils will meet Monday afternoon and the House of Delegates Monday evening and Tuesday morning.

The scientific sessions and sections will be held as usual on Tuesday and Wednesday,

May 20 and 21. Excellent guest speakers will be presented and for the first time each section will have a guest speaker. For the general sessions, the following subjects will be presented:

GENERAL SURGERY—Dr Earl Gar-side, Chicago, Ill.

"The Conservative Treatment of Appendiceal Peritonitis"

EYE, EAR, NOSE AND THROAT—Dr. Meyer Wiener, St. Louis, Mo.

"The Significance of Accurate Detailed Ophthalmological Information and Its Interpretation as a Factor in Neurological Diagnosis"

DERMATOLOGY AND RADIOLOGY—Dr. A. N. Arneson, St. Louis, Mo.

"Carcinoma of the Cervix Uteri"

OBSTETRICS AND PEDIATRICS—Dr. James R. Reinberger, Memphis, Tenn.

The Diagnosis and Treatment of Puerperal Infection With Special Reference to Sulphanilamide"

GENERAL MEDICINE — Dr. Ralph Pemberton, Philadelphia, Pa.

"The Present Status and Treatment of Chronic Arthritis"

NEUROLOGY, PSYCHIATRY AND ENDOCRINOLOGY—Dr. Lauren H. Smith, Philadelphia, Pa.

"Psychiatric Aspects of the National Emergency."

I am sure that everyone will agree that this program is one of the best that has ever been presented to our membership and should draw a large attendance. We will miss you if you do not attend and this will not be entirely our loss as you will miss an excellent opportunity for both scientific advancement and fraternal association.

DOCTORS VERSUS DICTATORS

Hurrying to Britain in a bomber with important discoveries, Sir Frederick Banting died "combatting human stresses." To Canada and to the world, the loss is inestimable. In the hearts of fair-thinking people throughout the world, the score has been charged to the dictators.

The following is from The Evening Telegram, Toronto, February 25: "After the outbreak of war the Banting Institute labora-

tory in Toronto was turned over to the research in aviation medicine with Sir Frederick as chairman of the associate committee on aviation medicine. It became his pet line of research."

Dean C. J. Mackenzie, acting president of the National Research Council said: "He would go up in a plane as high as it could go to discover the effect of the lack of oxygen on the pilot. He insisted in diving to see the effect of dive bombing on the bomber crews. He did everything a plane can do in the air in his study to discover means to counteract the heavy strains on humans in these unusual circumstances.

"Recently Sir Frederick spent days with tanks going through all the experiences associated with tank warfare. Then he sought out men to study the medical problems involved.

"We cannot go into detail about what he discovered, but when the time does come and his contributions can be adequately assessed, it will be clear that no one had done more for our cause. I have no hesitation in saying Canada could have suffered no greater individual loss."

The moment war was declared the weight of Sir Frederick's personality and untiring energy was dedicated to the one purpose of winning the conflict. It is said that this meant giving up his insistent desire to find a cure for cancer. Though he was an idealist, an artist, a country doctor and a great scientist, in the last analysis he was a true soldier. "He even seemed to court danger and asked no one to do anything involving risk which he did not first do himself. . . . He went on his last mission and to his death out of a firm sense of duty." He was "all out for victory" and impatient with his Government and his people while he waited for them to get "in high gear."

With no apologies for first dealing with the idealistic and courageous factors in Sir Frederick's life, we turn to a brief account of the factors of scientific significance. After all, it is obviously difficult to separate these two groups of factors. There is an inseparable blending to form a composite dynamic force devoted to the welfare of humanity. Idealistically, and literally today more than ever before this is medicine.

Time and space will not permit a detailed account of Sir Frederick's scientific career. Suffice it to say that thousands upon thousands of lives have been saved and morbidity favorably modified in millions by the use of insulin. This blessing is to be handed on to succeeding generations.

The President of the University of Toronto, Dr. H. J. Cody, said: "The discovery of insulin, epoch-making as it was, was only the beginning of a long series of investigations. He contributed to our knowledge of suprarenal cortex; he gained a deserved reputation in the field of the etiology of cancer; he investigated the physiology of drowning and methods of resuscitation; from the mines of the north came the problem of silicosis and his laboratories facilitated these investigations and conclusions, which may save the lives of the stalwart men in the mines."

At the time of his death he was professor of medical research in the Banting and Best Department of Medical Research. This professorship was established by the University of Toronto in recognition of his part in the discovery of insulin. His work, his honors and awards, including honorary degrees and his service in the Canadian Army Medical Corps, are detailed in the American Medical Journal, March 8, 1941.

As we contemplate the tragic but triumphant death of Sir Frederick Banting, we are stunned by the grim irony of fate. While quietly engaged in the warfare against disease for the benefit of all races of people, he was forced to turn his scientific genius against the annulling and destructive influences of man-made war.

Pay 'em Now !!

Before Bill Bluffem passed away
From this old vale of tears,
His Lodge dues he had failed to pay
For six or seven years.
And so when by decree of fate
He climbed the golden stair,
He saw, as he approached the gate,
Saint Peter standing there.
"St. Peter," says he, "mong other things
I want to join the choir;
I'd like to have a pair of wings,
And twang a golden lyre."
But Peter sadly shook his head.
"Your wants I must refuse,
You'll have to go below," he said,
"Until you pay your dues."

—Contributed by M. A. Howard, M.D.

ATTENTION !

All members of the Association planning on attending the Annual Session May 19, 20, 21 in Oklahoma City are cautioned to be certain they have paid their 1941 dues and have in return received their membership cards.

It will be necessary for everyone registering to have his 1941 card and dues will not be accepted at the meeting except through County Secretaries.

GUEST SPEAKERS

Annual Session, Oklahoma State Medical Association



Earl Garside, M.D., Surgeon, Chicago, Illinois. University of Oklahoma, School of Medicine 1923. M.S. in Surgery, Tulane University. Former assistant to Dr. Nelson M. Percy. Attending surgeon Augustana Hospital, Chicago, Ill.



Meyer Wiener, M.D., Ophthalmologist, St. Louis, Mo. Missouri Medical College 1876. Graduate student, University of Berlin, University of Heidelberg, University of Paris. Professor of Clinical Ophthalmology, Washington University, School of Medicine, St. Louis, Missouri.



A. N. Arneson, M.D., Dermatologist, St. Louis, Mo., Washington Univ., 1928. Fellow at Memorial Hospital, New York City. Instructor in Clinical Obstetrics, Gynecology and Therapeutic Radiology at Washington University, School of Medicine, St. Louis, Mo.



Lauren H. Smith, M.D., Psychiatrist, Philadelphia, Pa. University of Iowa, 1925. Graduate study Zurich, Switzerland. Physician in Chief and Administrator Department for Mental Diseases and the Institute of the Pennsylvania Hospital. Associate in Psychiatry, School of Medicine and Graduate School of Medicine, University of Pennsylvania.



Ralph Pemberton, M.D., Internist, Philadelphia, Pa. University of Pennsylvania 1903. Graduate study University of Berlin, University of Strasbourg. Professor of Medicine, Graduate School, University of Pennsylvania, Philadelphia. President Ligue Internationale contre le rhumatisme. Honorary fellow Royal Society of Medicine, London, England.



James R. Reinberger, M.D., Obstetrician, Memphis, Tenn. Vanderbilt University 1917. Postgraduate study Bellevue Hospital, New York City. Associate Professor of Obstetrics, University of Tenn., School of Medicine.

PROGRAM

Forty-Ninth Annual Session of the Oklahoma State Medical Association at Oklahoma City, May 19, 20, 21, 1941

Greetings From The Oklahoma County Medical Association

The Oklahoma County Medical Association is again privileged to be the host to the Oklahoma State Medical Association at its Annual Meeting. This privilege, as all others of importance, carries with it an obligation. As a good host, it is our duty to see that your local stay is a pleasant one, and that you return home glad that you made the necessary effort and sacrifice incident to the trip.

In addition to the usual activities of the local Committee on Arrangements in providing the best possible facilities for the meeting, we have included a special **BUFFET SUPPER** at the **SKIRVIN HOTEL**, 6:30 P. M., **MONDAY, MAY 19**, to which you are all invited guests. The speakers will be Col. W. Lee Hart, Surgeon, 8th Corps Area, Ft. Sam Houston, Texas, who will discuss "Organized Medicine in the National Defense Program," and Col. Raymond W. Bliss, Commanding Officer, Station Hospital, Ft. Sill, Oklahoma, who will talk on "The Present World War Viewed from the Medical Standpoint."

We urge you to come in time for this Supper. No ticket is necessary—just your State Medical Association card or registration badge.

In order that we may better estimate the probable number present at the supper, will you please send a card to the State Office or our local Society office, 512 Medical Arts Building, Oklahoma City, indicating your intentions?

The Women's Auxiliary is anxious to have the wives attend the Tuesday Meeting and Luncheon at the Oklahoma Club, when Dr. Grady F. Mathews, Director of the State Health Department, will address the group.

WE SHALL EXPECT YOU !

George H. Garrison, M. D., President,
Oklahoma County Medical Association.

General Information

HEADQUARTERS—Skirvin Tower Hotel, Oklahoma City.

REGISTRATION—**SILVER GLADE ROOM, THIRD FLOOR, SKIRVIN TOWER HOTEL.** All physicians, except those from outside the state, visiting guests, and those on military assignment, must hold membership cards for 1941 before registering. Dues will not be accepted at the meeting except from county secretaries.

Registration will open at 8:00 a. m., Monday.

LE ROY LONG MEMORIAL SERVICE, Monday, May 19, at 4:30 p. m., in the Oklahoma University Medical School.

GUEST SPEAKERS—Ralph Pemberton, M. D., Internist, Professor of Medicine, Graduate School, University of Pennsylvania, Philadelphia, Pa.; Lauren H. Smith, M. D., Psychiatrist, Physician-in-Chief and Administrator Department for Mental Diseases in the Institute of Pennsylvania Hospital, Philadelphia, Pa.; Meyer Wie-

ner, M. D., Ophthalmologist, Professor of Clinical Ophthalmology, Washington University, St. Louis, Mo.; James R. Reinberger, M. D., Obstetrician, Associate Professor of Obstetrics, University of Tennessee, Memphis, Tenn.; A. N. Arneson, M. D., Radiologist, Instructor in Clinical Obstetrics and Gynecology and Therapeutic Radiology, Washington University, St. Louis, Mo.; Earl Garside, M. D., Attending Surgeon, Augustana Hospital, Chicago, Ill.

GENERAL SESSIONS—The General Sessions will be held at 2:00 p. m., Tuesday and Wednesday, May 20 and 21, in the General Assembly Hall, Silver Glade Room, Third Floor, Skirvin Tower Hotel.

SECTION MEETINGS—All Section Meetings will be held on the Balconies of the Silver Glade Room, Third Floor, Skirvin Tower Hotel, except the Section on Dermatology and Radiology which will meet on the West Balcony, Main Lobby, Skirvin Tower Hotel, and the Public Health Meeting which will convene in the Venetian Room, Fourteenth Floor, Skirvin Hotel Proper.

HOUSE OF DELEGATES—The House of Delegates will meet Monday at 8:30 p. m., immediately following the Buffet Supper of the Oklahoma County Medical Association, and at 8:00 a. m., Tuesday and Wednesday, in the General Assembly Hall, Silver Glade Room, Third Floor, Skirvin Tower Hotel.

COUNCIL—The Council will convene at 2:00 p. m., Monday, May 19, in Room 441, Skirvin Hotel Proper, and thereafter on call of the President.

OKLAHOMA PEDIATRIC ASSOCIATION—The meeting of the Oklahoma Pediatric Association will be Monday, May 19, at 10:00 a. m. and at 2:00 p. m., in Room D, West Balcony, Silver Glade Room, Skirvin Tower Hotel.

PUBLIC HEALTH MEETING—The Public Health Meeting will be Tuesday, May 20, at 9:00 a. m., in the Venetian Room, Fourteenth Floor, Skirvin Hotel Proper.

SELECTIVE SERVICE EXAMINING PHYSICIANS MEETING—This meeting will be held Monday, May 19, at 1:30 p. m., in the General Assembly Hall, Silver Glade Room, Third Floor, Skirvin Tower Hotel.

OKLAHOMA COUNTY MEDICAL ASSOCIATION BUFFET SUPPER—The Supper will be Monday, May 19, at 6:30 p. m., in the Venetian Room, Fourteenth Floor, Skirvin Hotel Proper.

SECOND ANNUAL SECRETARIES MEETING—Luncheon, Wednesday, May 21, at 12:00 Noon in the Crystal Room, Skirvin Hotel Proper. The Constitution and By-Laws governing the Secretaries Annual Meeting as approved by the Council will be discussed and adopted. All officers of the county societies are urged to attend.

OKLAHOMA UNIVERSITY MEDICAL ALUMNI LUNCHEON—Tuesday, May 20, at 12:00 Noon, in the Skirvin Hotel Proper. Registration will be in the Silver Glade Room, Third Floor, Skirvin Tower Hotel.

WOMEN'S AUXILIARY—Registration in the Lobby of the Skirvin Tower Hotel. Complete program page 166.

TEA FOR DOCTORS AND WIVES—The Tea will be from 6:30 to 7:30, Tuesday evening, May 20, in the Empire Room of the Skirvin Hotel Proper. Everyone is cordially invited.

PRESIDENT'S INAUGURAL DINNER DANCE—The Dinner Dance will immediately follow the Tea and will be held on the Fourteenth Floor, Skirvin Hotel Proper. Tickets \$1.50 per person.

GOLF TOURNAMENT—The annual Golf Tournament will be held Monday afternoon, May 19, at the Oklahoma City Golf and Country Club. Teeing off time will be 12:00. Green fees \$1.00.

SKEET SHOOT—All those interested in skeet shooting contact T. G. Wails, M. D.

SCIENTIFIC EXHIBITS—The Exhibits will be displayed on the Balcony of the Silver Glade Room, Third Floor, Skirvin Tower Hotel.

COMMERCIAL EXHIBITS—The Exhibits will be displayed on the Main Floor of the Silver Glade Room, Third Floor, Skirvin Tower Hotel.

RESOLUTIONS—Resolutions to be submitted should be prepared and presented at the first meeting of the House of Delegates.

Hand Set Page—LeRory Lon Memorial

Women's Program

State Auxiliary Officers

Mrs. W. A. Fowler President, Norman, Oklahoma	Mrs. O. E. Howell, Treasurer, Norman, Oklahoma
Mrs. Edw. D. Greenberger, President-Elect, McAlester, Oklahoma	Mrs. C. M. Pounders, Convention Chairman, Okla. City, Oklahoma
Mrs. A. R. Sugg, Vice-President, Ada, Oklahoma	Mrs. W. F. Keller, Social Chairman, Okla. City, Oklahoma
Mrs. James L. Haddock, Secretary, Norman, Oklahoma	Mrs. E. P. Allen, Historian, Okla. City, Oklahoma
Mrs. Chas. Paramore, Parliamentarian, Shawnee, Oklahoma	

Convention Program

Monday May 19, 1941

8:00 A.M.—Registration—Lobby Skirvin Tower Hotel.
6:30 P.M.—Pre-Convention Executive Board Meeting.
Buffet Supper in the home of Mrs. C. M. Pounders, 904 Northeast 19th Street, Okla. City.

Tuesday, May 20, 1941

8:00 A.M.—Registration.

12:00 Noon—Luncheon at the Oklahoma Club, \$1.00.
All visiting ladies are invited to attend.

Please secure your tickets at registration desk. Grady F. Mathews, M. D., Director of the State Health Department, Oklahoma City, speaker. The luncheon will be followed by the Annual Meeting.

3:00 P.M.—Pre-Convention Board Meeting following the General Meeting.

Scheduled Events

Monday May 19, 1941

REGISTRATION

8:00 A.M.—Silver Glade Room Third Floor, Skirvin Hotel.

OKLAHOMA PEDIATRIC ASSOCIATION

Parlor D, West Balcony, Silver Glade Room,
Skirvin Tower Hotel

President—Ben H. Nicholson, M. D., Oklahoma City.
Vice-President—G. R. Russell, M. D., Tulsa.

Secretary—Luvern Hays, M. D., Tulsa.

10:00 A.M.—"Allergy."—Herbert J. Rinkel, M. D., Kansas City, Mo.

2:00 P.M.—Business Session.

2:30 P.M.—"Allergy in Relation to Certain Clinical Syndromes."—Herbert J. Rinkel, M.D., Kansas City, Mo.

GOLF TOURNAMENT

Oklahoma City Golf and Country Club

Hugh Jeter, M. D., Chairman

Registration—All morning; Entrance fee, \$1.00.

12:00 Noon—Teeing off time. Trophies will be awarded. Entrance fee includes everything except caddy fees.

SELECTIVE SERVICE EXAMINING PHYSICIANS MEETING

General Assembly Hall, Silver Glade Room,
Third Floor, Skirvin Tower Hotel

Major Louis H. Ritzhaupt, Chairman

1:30 P.M.—Introduction of Governor Leon Phillips. Discussion of Problems Concerning Selective Service Examinations—Lt. Col. R. H. Eanes, Assistant to the Chief of Medical Division, Selective Service, National Headquarters, Washington, D. C.

COUNCIL MEETING

2:00 P. M.

Room 441, Skirvin Hotel Proper

LE ROY LONG MEMORIAL SERVICE

4:30 P.M.

Oklahoma University Medical
School Auditorium

OKLAHOMA COUNTY MEDICAL ASSOCIATION BUFFET SUPPER

6:30 P.M.

Venetian Room, Fourteenth Floor, Skirvin Hotel Proper
George H. Garrison, M. D., President, Presiding

Following the Buffet Supper, Col. W. Lee Hart, Surgeon, 8th Corps Area, Fort Sam Houston, Texas, will discuss "Organized Medicine in the National Defense Program," and Col. Raymond W. Bliss, Commanding Officer, Station Hospital, Fort Sill, will talk on "The Present World War View from the Medical Standpoint."

All members of the State Medical Association are cordially invited.

HOUSE OF DELEGATES

8:30 P.M.

General Assembly Hall, Silver Glade Room,
Third Floor, Skirvin Tower Hotel

Tuesday May 20, 1941

HOUSE OF DELEGATES

8:00 A.M.

General Assembly Hall, Silver Glade Room,
Third Floor, Skirvin Tower Hotel

SECTION MEETINGS

9:00 A.M.

All Sections will meet on the Balconies of the Silver Glade Room, Third Floor, Skirvin Tower Hotel, except the Public Health Meeting which will meet in the Venetian Room, Fourteenth Floor, Skirvin Hotel Proper, and the Section on Dermatology and Radiology which will meet on the West Balcony, Main Lobby, Skirvin Tower Hotel.

PUBLIC HEALTH MEETING

Venetian Room, Fourteenth Floor
Skirvin Hotel Proper

Grady F. Mathews, M. D., State Health
Commissioner, Presiding

9:00 A.M.—"The Diagnosis and Control of Burcellosis."
—I. Forrest Huddelson, Ph.D., Research
Professor of Bacteriology, Michigan State
College, Lansing, Mich. Discussion: E.
Goldfain, M.D., Oklahoma City.

10:00 A.M.—"Public Health Aspects of the Five Ve-
neral Diseases." — Robert B. Greenblatt,
M. D., Professor of Experimental Medicine,
University of Georgia School of Medicine,
Augusta, Ga. Discussion: C. P. Bondurant,
M. D., Oklahoma City.

11:00 A.M.—"The Private Physician and Public Health."
—John F. Hackler, M. D., Director, Advisory
Field Staff, State Health Department, Okla-
homa City. Discussion: Powell E. Fry,
M. D., Stillwater.

**OKLAHOMA UNIVERSITY MEDICAL
SCHOOL ALUMNI LUNCHEON**

12:00 Noon

Skirvin Hotel Proper

Classes of 1911, 1921 and 1931 will present interest-
ing programs.

GENERAL SESSION

2:00 P.M.

General Assembly Hall, Silver Glade Room,
Third Floor, Skirvin Tower Hotel

TEA FOR DOCTORS AND WIVES

6:30 P.M.

Empire Room, Skirvin Hotel Proper

PRESIDENT'S INAUGURAL DINNER DANCE

7:30 P.M.

Fourteenth Floor, Skirvin Hotel Proper

C. R. Rountree, M. D., General Chairman, Presiding.
Introduction of Guests—C. R. Rountree, M. D., Okla-
homa City.

Address of Welcome—George H. Garrison, M. D., Presi-
dent, Oklahoma County Medical Association.

Response and Introduction of President-Elect—Henry
H. Turner, M. D., Oklahoma City, Retiring President.

President's Address—Finis W. Ewing, M. D., Muskogee.

Wednesday, May 21, 1941**HOUSE OF DELEGATES**

8:00 A.M.

General Assembly Hall, Silver Glade Room,
Third Floor, Skirvin Tower Hotel

SECTION MEETINGS

9:00 A.M.

All Sections will meet on the Balconies of the Silver
Glade Room, Third Floor, Skirvin Tower Hotel, except
the Section on Dermatology and Radiology which will
meet on the West Balcony, Main Lobby, Skirvin Tower
Hotel.

SECOND ANNUAL SECRETARIES MEETING

12:00 Noon

Wilson Room, Skirvin Hotel Proper

Roy Smith, M. D., Tulsa, Presiding

Luncheon to be followed by a roundtable discussion
of the Association's cooperation with component coun-
ty societies. Tickets 75c.

GENERAL SESSIONS

2:00 P.M.

General Assembly Hall, Silver Glade Room,
Third Floor, Skirvin Tower Hotel

Scientific Program**Oklahoma State Medical Association**

May 20-21, 1941

All sections with exception of the Public
Health Meeting and the Section on Derma-
tology and Radiology will meet on the Balcony
of the Silver Glade Room, Third Floor, Skir-
vin Tower Hotel.

GENERAL SESSIONS

The General Sessions will meet in the Gen-
eral Assembly Hall, Silver Glade Room, Third
Floor, Skirvin Tower Hotel.

SECTIONS

Section on Eye, Ear, Nose and Throat—Parlor
A, East Balcony.

Section on Surgery—Parlor B, East Balcony.

Section on Medicine—Parlor C, West Balcony.

Section on Obstetrics and Pediatrics—Parlor
D, West Balcony.

Section on Neurology, Psychiatry, and Endo-
crinology—Parlor E, West Balcony.

Section on Dermatology and Radiology—West
Balcony, Main Lobby.

Public Health Meeting—Venetian Room, Four-
teenth Floor, Skirvin Hotel Proper. (Tues-
day only)

GENERAL SESSIONS PROGRAM**Tuesday, May 20, 1941**

General Assembly Hall Silver Glade Room,
Third Floor, Skirvin Tower Hotel

Henry H. Turner, M. D., Oklahoma City,
Presiding.

2:00 P.M.—"*The Present Status and Treat-
ment of Chronic Arthritis.*"—
Ralph Pemberton, M. D., Phila-
delphia, Pa.

2:45 P.M.—"*Carcinoma of the Cervix Uteri.*"
—A. N. Arneson, M. D., St.
Louis, Mo.

3:30 P.M.—Intermission. (Visit Commercial
and Scientific Exhibits.)

3:45 P.M.—"*Psychiatric Aspects of the Na-
tional Emergency.*"—Lauren H.
Smith, M. D., Philadelphia, Pa.

Wednesday, May 21, 1941

General Assembly Hall, Silver Glade Room,
Third Floor, Skirvin Tower Hotel

Finis W. Ewing, M. D., Muskogee, Presiding.

2:00 P.M.—"*The Conservative Treatment of
Appendiceal Peritonitis.*"—Earl
Garside, M. D., Chicago, Ill.

2:45 P.M.—*"The Significance of Accurate Detailed Ophthalmological Information and Its Interpretation as a Factor in Neurological Diagnosis."*—Meyer Wiener, M. D., St. Louis, Mo.

3:30 P.M.—Intermission. (Visit Commercial and Scientific Exhibits.)

3:45 P.M.—*"The Diagnosis and Treatment of Puerperal Infections with Special Reference to Sulphanilamide."*—James R. Reinberger, M. D., Memphis, Tenn.

Section on General Medicine

Tuesday, May 20, 1941

Lea A. Riely, M. D., Sponsor
Parlor C. West Balcony, Silver Glade Room
Skirvin Tower Hotel

Chairman—E. G. Hyatt, M. D., Tulsa.

Vice-Chairman—C. A. Traverse, M. D., Alva.

Secretary—E. Goldfain, M.D., Oklahoma City.

9:00 A.M.—*"Observations of Military Medicine in London."*—Col. Raymond W. Bliss, Fort Sill.

9:30 A.M.—*"Heparin: Its Practical Use in Thrombosis and Embolism."*—Philip Schreck, M. D., Tulsa. Discussion opened by Samuel Goodman, M. D., Tulsa.

10:00 A.M.—*"Syphilis: A Problem for the Internist."*—W. C. Thompson, M. D., Stillwater. Discussion opened by John B. Morey, M. D., Ada.

10:30 A.M.—*"Some Common Diseases That Can Be Helped by X-ray Therapy."*—Chas. M. Ming, M. D., Okmulgee. Discussion opened by W. S. Larrabee, M. D., Tulsa.

11:00 A.M.—*"Treatment of Pneumonia."*—P. M. McNeill, M. D., Oklahoma City. Discussion opened by Elmer R. Musick, M. D., Oklahoma City.

11:30 A.M.—*"Typhoid Fever."*—John Y. Battefield, M. D., State Epidemiologist, State Health Department, Oklahoma City. Discussion opened by Lea A. Riely, M. D., Oklahoma City.

Wednesday, May 21, 1941

Arthur W. White, M. D., Sponsor

9:00 A.M.—Chairman's Address — *"Some Mechanical Factors Involved in*

the Production of Hiatus Hernia of the Stomach."—E. G. Hyatt, M. D., Tulsa,

9:30 A.M.—*"Experience with Amoebic Dysentery in Northeastern Oklahoma."* George K. Hemphill, M. D., Pawhuska. Discussion opened by S. C. Shepard, M. D., Tulsa.

10:00 A.M.—*"Thiocyanates in the Treatment of Hypertension."*—Turner Bynum, M. D., Chickasha. Discussion opened by Owen Royce, M. D., University Hospital, Oklahoma City. (By invitation.)

10:30 A.M.—*"Tularemia."*—E. H. Werling, M. D., Pryor. Discussion opened by F. G. Dorwart, M. D., Muskogee.

11:00 A.M.—*"Clinic on Arthritis with Demonstration of Patients."*—Ralph Pemberton, M. D., Philadelphia, Pa.

12:00 Noon—Election of Officers.

Section on General Surgery

Tuesday, May 20, 1941

Charles M. O'Leary, M. D., Sponsor
Parlor B, East Balcony, Silver Glade Room
Skirvin Tower Hotel

Chairman—John Powers Wolff, M. D., Oklahoma City.

Vice-Chairman—John F. Burton, M. D., Oklahoma City.

Secretary—Raymond L. Murdock, M. D., Oklahoma City.

9:00 A.M.—*"Electrosurgical Treatment of the Pathogenic Cervix."*—Kenneth J. Wilson, M. D., Oklahoma City. Discussion: P. N. Charbonnet, M. D., Tulsa. E. R. Muntz, M. D., Ada.

9:30 A.M.—*"Surgical Procedures of Chronic Intestinal Obstruction."*—Marvin E. Stout, M.D., Oklahoma City. Discussion: Vern Musick, M. D., Oklahoma City.

10:00 A.M.—*"Acute Cholecystitis."*—Earl Garside, M. D., Chicago, Ill.

11:00 A.M.—*"Some Physiological Problems in the Surgical Treatment of Peptic Ulcer."*—Pat Fite, M. D., Muskogee. Discussion: Leroy Long, M. D., Oklahoma City, Edward C. Mason, M. D., Oklahoma City. (By invitation.)

11:30 A.M.—“*Pre- and Post-Operative Management of Hyperthyroidism.*”—C. E. Northcutt, M. D., Ponca City. Discussion: Ray H. Lindsay, M. D., Pauls Valley.

Wednesday, May 21, 1941

Everett B. Neff, M. D., Sponsor

9:00 A.M.—“*A Method of Care of Fractured Knee Cartilage.*”—C. A. Gallagher, M. D., Oklahoma City. Discussion: Pat Fite, M. D., Muskogee, Fred Glass, M. D., Tulsa.

9:30 A.M.—Chairman's Address—“*Varicose Veins of the Lower Extremities.*”—John Powers Wolff, M. D., Oklahoma City.

10:00 A.M.—“*Post Operative Treatment.*”—Earl Garside, M. D., Chicago, Ill.

11:00 A.M.—“*Melanoma.*”—John F. Burton, M. D., Oklahoma City. Discussion: Hugh Jeter, M. D., Oklahoma City.

11:30 A.M.—“*Management and Relief of Pain in the Incurable Cancer Patient.*”—A. Ray Wiley, M. D., Tulsa. Discussion: To be announced.

12:00 Noon—Election of Officers.

Section on Dermatology and Radiology

Tuesday, May 20, 1941

Ralph Myers, M. D., Sponsor
West Balcony, Main Lobby,
Skirvin Tower Hotel

Chairman—Joseph B. Hix, M. D., Altus.

Vice-Chairman—John Lamb, M. D., Oklahoma City.

Secretary—Wm. E. Eastland, M. D., Oklahoma City.

9:00 A.M.—Chairman's Address — “*Reducing Mortality from Cancer.*”—Joseph B. Hix, M. D., Altus.

9:30 A.M.—“*Neuroblastoma with Special Reference to Its Roentgen Manifestations.*”—Alfred J. Ackermann, M. D., Oklahoma City. (By Invitation).

10:00 A.M.—“*Further Experience With Per-vaginal X-Radiation in the Management of Carcinoma of the Cervix.*”—L. S. McAlister, M. D., Muskogee.

10:30 A.M.—“*Contact and Transvaginal X-*

rays in Gynecology.”—A. N. Arneson, M. D., St. Louis, Mo.

Wednesday, May 21, 1941

Carl L. Brundage, M. D., Sponsor

9:00 A.M.—“*Malignant Giant Cell Tumors: Diagnosis and Treatment.*”—Onis G. Hazel, M. D., Wayne M. Hull, M. D., and L. K. Chont, M. D., Oklahoma City. (By Invitation).

9:30 A.M.—“*Irradiation Therapy of Skin Cancers.*”—Edward D. Greenberger, M. D., McAlester.

10:00 A.M.—“*Carcinoma of the Corpus Uteri.*”—A. N. Arneson, M. D., St. Louis, Mo.

11:00 A.M.—“*The Surgical Treatment of Radiation Injury of Tissues.*”—George H. Kimball, M. D., Oklahoma City.

11:30 A.M.—Film Reading Hour—Conducted by Alfred J. Ackermann, M. D., Oklahoma City. (By invitation.)

12:00 Noon—Election of Officers.

Section on Eye, Ear, Nose and Throat

Tuesday, May 20, 1941

E. Gordon Ferguson, M. D., Sponsor
Parlor A, East Balcony, Silver Glade Room
Skirvin Tower Hotel

Chairman—D. L. Edwards, M. D., Tulsa.

Vice-Chairman—W. W. Sanger, M. D., Oklahoma City.

Secretary—F. Maxey Cooper, M. D., Oklahoma City.

9:00 A.M.—Chairman's Address — “*Retrobulbar Neuritis.*”—D. L. Edwards, M. D., Tulsa.

9:30 A.M.—“*The Use of Electricity in the Treatment of the Eye.*”—Meyer Wiener, M. D., St. Louis, Mo.

10:30 A.M.—“*Practical Refraction.*” James P. Luton, M. D., Oklahoma City. Discussion: J. R. Reed, M. D., Oklahoma City.

11:00 A.M.—“*Corneal Injuries and Complications.*”—Werner Mall, M. D., Ponca City. Discussion: E. S. Ferguson, M. D., Oklahoma City.

11:30 A.M.—“*Easier and Safer Cataract Extraction.*”—F. Maxey Cooper, M. D., Oklahoma City. Discussion: Harvey Randel, M. D., Oklahoma City, J. R. Reed, M. D., Oklahoma City.

Wednesday, May 21, 1941

Leo F. Cailey, M. D., Sponsor

- 9:00 A.M.—*"Symposium on Sulphanilamides in E. E. N. T."*—Marvin Henley, M. D., Tulsa. Discussion: T. G. Wails, M. D., Oklahoma City.
- 9:30 A.M.—*"The Medical Treatment of Keratoconus."*—Meyer Wiener, M. D., St. Louis, Mo.
- 10:30 A.M.—*"Foreign Bodies of the Air and Food Passages: Some Observation on a Series of 220 Cases."*—L. C. McHenry, M. D., Oklahoma City. Discussion: Ruric N. Smith, M. D., Tulsa.
- 11:00 A.M.—*"Hoarseness."*—George L. Tracewell, M. D., Okmulgee. Discussion: Hugh Evans, M. D., Tulsa.
- 11:30 A.M.—*"Mastoditis; A Case Report."*—Frank Viereggs, M. D., Clinton. Discussion: J. C. Macdonald, M. D., Oklahoma City. C. M. Fullenwider, M. D., Muskogee.
- 12:00 Noon—Election of Officers.

Section on Obstetrics and Pediatrics**Tuesday, May 20, 1941**

Parlor D, West Balcony, Silver Glade Room
Skirvin Tower Hotel

Chairman—Ben H. Nicholson, M.D., Oklahoma City.

Vice-Chairman—Dick Lowry, M. D., Oklahoma City.

Secretary—Forest Etter, M. D., Bartlesville.

Pediatrics**Tuesday, May 20, 1941**

- 9:00 A.M.—*"Obscure Temperatures in the Young."*—W. M. Taylor, M. D., Oklahoma City. Discussion: H. R. Cushman, M. D., Clinton, C. E. Bradley, M. D., Tulsa.
- 9:30 A.M.—Chairman's Address—*"The Clinical Significance of Delayed Osseous Development."*—Ben H. Nicholson, M. D., Oklahoma City.
- 10:00 A.M.—*"Some Everyday Problems in Pediatrics."*—C. W. Arrendell, M. D., Ponca City.
- 10:30 A.M.—*"The Pitfalls of the Caesarean Baby."*—E. E. Beechwood, M.D., Bartlesville. Discussion: K. D. Davis, M. D., Nowata.
- 11:00 A.M.—*"An Unusual Case History for Diagnosis."*—David J. Underwood, M. D., Tulsa. Discussion:

K. C. Reese, M. D., Tulsa, J. B. Snow, M. D., Oklahoma City.

Obstetrics**Wednesday, May 21, 1941**

Dick Lowry, M. D., Sponsor

- 9:00 A.M.—*"The Endocrine Basis of Abortion."*—Milton J. Serwer, M. D., Oklahoma City. Discussion: Arthur Hellbaum, Ph. D., Associate Professor of Physiology, Oklahoma University School of Medicine. (By invitation.)
- 9:30 A.M.—*"The Obstetrician's Obligation to His Patient."*—Laile G. Neal, M. D., Ponca City. Discussion: Chas. F. Paramore, M. D., Shawnee.
- 10:00 A.M.—*"The Recognition and Management of Contraction Ring Dystocia."*—James R. Reinberger, M. D., Memphis, Tenn.
- 11:00 A.M.—*"Some Interrelationships of Maternal and Fetal Physiology."*—George R. Osborn, M. D., Tulsa. Discussion: Edward C. Mason, M. D., Professor of Physiology, Oklahoma University School of Medicine, Oklahoma City. (By invitation.)
- 11:30 A.M.—Open Discussion.
- 12:00 Noon—Election of Officers.

Section on Neurology, Psychiatry and Endocrinology**Tuesday, May 20, 1941**

- Hugh M. Galbraith, M. D., Sponsor
- Parlor E, West Balcony, Silver Glade Room
Skirvin Tower Hotel
- Chairman—D. W. Griffin, M. D., Norman.
- Vice-Chairman—Harry Wilkins, M. D., Oklahoma City.
- Secretary—Coyne Campbell, M. D., Oklahoma City.
- 9:00 A.M.—*"Role of Vitamins in Neurology and Psychiatry."*—James A. Willie, M. D., Oklahoma City.
- 9:30 A.M.—*"Modern Psychotherapy."*—Lauren Smith, M. D., Philadelphia, Pa.
- 10:00 A.M.—*"Mental Hygiene in Our Public Schools."*—Felix Adams, M. D., Vinita.
- 10:30 A.M.—*"Present Day Conception of Convulsive Disorders."*—Charles R. Rayburn, M. D., Norman.
- 11:00 A.M.—*"Combine Sclerosis."*—Wann Langston, M. D., Oklahoma City.

11:30 A.M.—“*Fever Therapy*.” — Patrick S. Nagle, M. D., Oklahoma City.

Wednesday, May 21, 1941

Moorman Prosser, M. D., Sponsor

9:00 A.M.—“*The Relation of the Mental Hospital Physician to the Patient and Relatives*.” — John L. Day, M. D., Supply.

9:30 A.M.—“*Psychiatry in Everyday Practice*.” — Lauren H. Smith, M. D., Philadelphia, Pa.

10:00 A.M.—“*Functional Symptoms in Skin Disorders*.” — Onis G. Hazel, M. D., Oklahoma City.

10:30 A.M.—“*Present Day Status of Research in Psychosomatic Medicine*.” — Hugh M. Galbraith, M. D., Oklahoma City.

11:00 A.M.—“*Surgical Procedures for the Relief of Intractable Pain*.” — Jess D. Hermann, M. D., Oklahoma City.

11:30 A.M.—“*Shock Therapy in the Affective Disorders*.” — Moorman Prosser, M. D., Norman.

12:00 Noon—Election of Officers.

(All papers presented before the Sections are property of the Association for publication in The Journal and should be presented to the Secretary of the Section when read.)

Scientific Exhibits

1. *Gastro-Intestinal Lesions*—Vern Musick, M. D.
2. *Melanoma*—John F. Burton, M. D.
3. *Foreign Bodies Removed from Air and Food Passages*—Chester McHenry, M. D.
4. *Contact Dermatitis*—Ray M. Balyeat, M.D., Wayne M. Hull, M. D., and Onis G. Hazel, M. D.
5. *Plastic Surgery*—Curt Von Wedel, M. D., and Stephen S. Ellis, M. D.,
6. *Syphilis of the Skeletal System*—C. R. Rountree, M. D., and Onis G. Hazel, M. D.
7. *Diseases of the Eye*—D. L. Edwards, M. D.
8. *Carcinoma of the Cervix*—Joseph Kelso, M. D.
9. *Aspiration Fluids — Diagnosis in Malignancy*—Hugh Jeter, M. D., and Curtis H. Epps, M. D. (Department of Clinical Pathology, University Hospital.)
10. *Bone Tumors*—Hugh Jeter, M. D., and Curtis H. Epps, M. D. (Department of Clinical Pathology, University Hospital.)
11. *Medical Photography*—Wayne M. Hull, M. D., and Hugh Jeter, M. D.
12. *Clinical Endocrinology*—Henry H. Turner, M. D.

Commercial Exhibits

1. *J. A. Majors Company*—New Orleans, Louisiana.
4. *A. S. Aloe Company*—St. Louis, Missouri
5. *Lederle Laboratories, Inc.* — Oklahoma City, Oklahoma
6. *The Pearson School, Inc.*—Muskogee, Oklahoma.
7. *Credit Bureaus of Oklahoma*—Oklahoma City, Oklahoma
8. *Philip Morris & Company, Ltd.* — New York, New York
9. *Caviness Surgical Company* — Oklahoma City, Oklahoma
10. *The Ediphone Company*—Oklahoma City, Oklahoma
11. *John Wyeth & Brother, Inc.*—Philadelphia, Pennsylvania
12. *H. G. Fischer & Company* — Oklahoma City
13. *Schering Corporation* — Bloomfield, New Jersey
14. *The Vitamin Products*—Milwaukee, Wisconsin
15. *H. M. Parker X-Ray Company* — Oklahoma City, Oklahoma
16. *The Harrower Laboratory*—Glendale, California
17. *H. J. Heinz Company*—Pittsburgh, Pennsylvania
18. *Credit Service* — Oklahoma City, Oklahoma
19. *Max Woche & Son Company*—Oklahoma City, Oklahoma
20. *The Mennen Company* — Newark, New Jersey
21. *J. B. Lippincott Company* — Philadelphia, Pennsylvania
23. *General Electric X-Ray Corporation* — Oklahoma City, Oklahoma
26. *C. V. Mosby Company*—St. Louis, Missouri
27. *Merck & Company, Inc.*—Rahway, New Jersey
29. *Merkel X-Ray Company*—Oklahoma City, Oklahoma
30. *Coca-Cola Company* — Oklahoma City, Oklahoma
31. *Holland-Rantos Company* — New York, New York
32. *C. B. Fleet Company*—Lynchburg, Virginia
33. *Mead Johnson & Company* — Evansville, Indiana
34. *Petrolagar Laboratories, Inc.* — Chicago, Illinois
35. *Eli Lilly & Company* — Indianapolis, Indiana

OFFICERS

of
Oklahoma State Medical Association
1940 - 41



Finis W. Ewing, Muskogee
President Elect



Henry H. Turner, Oklahoma City
President



L. S. Willour, McAlester
Secretary-Treasurer-Editor



J. D. Osborn, Frederick
Speaker House of Delegates

COMMITTEE REPORTS

Since the establishment of a full-time office for the Association and the dissemination therefrom to the different committees requests for their services in the study of problems on which action by the Council or the House of Delegates is necessary, it is possible to report that in not a single instance was there a failure of the committee to assume its proper responsibility.

Under these circumstances, the following committees were not called upon for active work during 1940-41 and therefore have no reports to submit for consideration by the House of Delegates: Committee on Conservation of Hearing; Committee on Crippled Children; Committee on Industrial Medicine; Committee on Traumatic Medicine; Committee on Maternity and Infancy; Committee on Study and Control of Tuberculosis; Committee on Study and Control of Venereal Diseases; Committee on Public Health; and Committee on Medical Education and Hospitals.

Any member of the Association desiring to submit any problems for the consideration of the Association should feel free to refer it to the office of the Association or the proper committee.

Report of Committee on Conservation of Vision

The Committee on Conservation of Vision submits the following report to the House of Delegates:

During 1940-41 in cooperation with the Oklahoma State Health Department, your committee has undertaken to assist in the study and formation of a Trachoma Control Program for Oklahoma. Trachoma control in Oklahoma has for a number of years, with the exception of isolated cities and counties, been undertaken primarily by the Indian agencies and has met with a marked degree of success. Recent research on the other hand has revealed that among the school children in Oklahoma, particularly in the poorer sections of the state, there is a good deal of trachoma prevalent. Statistics available from the Department of Public Welfare likewise point out that almost one out of every four cases now receiving assistance from the Aid to the Dependent Blind Fund is either a direct or indirect result of trachoma and could have been prevented had the case been given correct diagnosis and proper treatment.

The committee, during the past year, had three meetings with officials of the Public Health Department who have been assigned to the study of trachoma and at the last meeting consulted with representatives from the Children's Bureau of the federal government for the purpose of ascertaining the advisability of an appropriation to be allotted to Oklahoma for the purpose of taking a survey as to the prevalence of trachoma both in children of school age as well as of entire families of the low wage group.

The committee's activities in these meetings has been in the role of an advisor and consultant and while numerous suggestions have been offered that concerned the proposition of diagnosis and treatment, no definite plans in this field have been consummated. Your committee further states and recommends that after careful consideration of the question on trachoma as brought to light in these meetings, it is of the definite opinion that all future Conservation of Vision committees should assume an active participation in any Trachoma Control Program in order that it may have the proper direction and cooperation of the doctors throughout the state.

While there are differences of opinion among the profession as to the scope and phase of the disease, the committee is nevertheless of the opinion that it presents

a serious problem not only of a physical but also of an economic, state-wide nature and merits the cooperation of the profession.

Respectfully,

F. R. Vieregg, M. D., Chairman
E. H. Coachman, M. D.
W. W. Sanger, M. D.

Report of the Committee on Judicial and Professional Relations

The Committee on Judicial and Professional Relations submits the following report to the House of Delegates:

Your committee on judicial and professional relations established under the new constitution and by-laws has not been presented with any questions coming under its jurisdiction concerning compensation for injuries said to have resulted from malpractice other than those cases which have been brought to the attention of the committee by requests for assistance from the Medical Defense fund.

During the 1940-41 period, four requests for assistance from the fund have been received and the assistance granted. Of these cases, one has been settled by a verdict in favor of the defendant and the other three are awaiting disposition. The committee desires to express its appreciation for the manner in which cooperation has been received from those members requesting assistance and respectfully desires to reaffirm the splendid place this fund takes in the affairs of the Association.

On April 1 in addition to bonds held to the account of the Medical Defense fund as reported in the audit of the Association, there is on hand in cash the sum of \$1999.34.

A. S. Risser, M. D.
L. C. Kirkendall, M. D.
O. E. Templin, M. D.

Report of the Committee on Medical Economics

The Committee on Medical Economics submits the following report to the House of Delegates:

Your committee has been confronted with what it considers to be one of the most important problems concerning cooperation between federal and state agencies and the medical profession that has recently been called to the profession's attention.

In presenting the activities of the committee during the past year, the problem of the operation of the Aid to Dependent Children fund administered by the department of public welfare has been of sufficient importance that the committee, to properly present the problem, submits the requests of the department in toto. The committee would like to further point out that in this case as in practically all cases of a like nature the remuneration for the doctors has not been taken into consideration. The committee feels that any recommendation which might come from the House of Delegates or the Council should come only after careful consideration of this phase of the suggested program.

In the discussions with the representatives of the public welfare department, one paramount problem seemed to present itself, namely, the advisability for the establishment of a Medical Advisory committee, to work in cooperation with the department on medical matters with which it is confronted. The committee, if established, would in turn be faced with the necessity of revising and suggesting many reforms in the handling of

the cases considered by the department for participation in the fund. The following proposition regarding the establishment of an advisory committee has been submitted by the department of public welfare for the consideration of the committee and the committee in turn respectfully requests the opinion of the House of Delegates on the question.

PROPOSAL REGARDING THE ESTABLISHMENT OF A
ADVISORY COMMITTEE FOR THE DEPARTMENT
OF PUBLIC WELFARE

I. Selection and Method of Appointment of Committee

It is proposed that the Oklahoma State Medical Association nominate ten physicians from whom the Director of Public Welfare will appoint five to serve as the Medical Advisory Committee for the Department of Public Welfare, the Director of Public Welfare designating the chairman. The experience of other states in which studies have been conducted indicates that the most frequent diagnosis of physical conditions as a factor in eligibility for aid to dependent children are heart disease, tuberculosis, rheumatism, accidents and injuries, and syphilis. It is therefore suggested that the nominations include physicians who have had special experience with this type of practice.

II. Tenure of Office

It is proposed that two of the initial members be appointed for a two year term and three for a one year term; thereafter, appointments should be made for two years.

III. Frequency of Meetings

It is anticipated that semi-monthly meetings of about an hour's duration would be required for a three to six months' period, at the end of which time monthly meetings would probably suffice.

IV. Functions of Medical Advisory Committee

1. To advise the agency in regard to policies, standards, procedures and forms related to the health of applicants and recipients of aid to dependent children.
2. To serve in an advisory capacity to the agency in the review of reports of physicians submitted as evidence of the incapacity of the parents in establishing eligibility for aid to dependent children.
3. To advise the agency in the development of suitable plans by which adequate medical examinations and review of such examinations by qualified medical personnel may be secured by the county departments of public welfare.
4. To advise the State Department of Public Welfare in regard to a discriminating use of available facilities for health care and in regard to agency practices that will make medical care effective.
5. To encourage the appointment of local medical advisory committees where such are needed, and to correlate the efforts of such committees.
6. To interpret to physicians throughout the State the purpose of the aid to dependent children program and the significance of the medical examination as a factor in determining eligibility for assistance and in planning for the welfare of the family.
7. To assist the Department of Public Welfare in conducting a statistical analysis of the reported causes of incapacity.

V. Responsibility of the Department of Public Welfare in conducting the liaison between the agency and the Medical Advisory committee.

The Department of Public Welfare will prepare the agenda for meetings, organize basic information for the consideration of the committee, prepare minutes to distribute to the members of the committee and follow up on the suggestions made and advice given by the committee.

VI. Scope of Problem

During the fiscal year ending June 30, 1940, there were 896 cases granted aid to dependent children in which the physical incapacity of the parent was a factor in the determination of eligibility. There were an additional 65 cases in which the mental incapacity of the parent was a factor in eligibility for assistance. It is estimated that there would be need for review of from 75 to 100 medical reports each month. In addition, a small number of reports on cases rejected for assistance would require review. After the review of all such cases accepted or rejected has been carried on for a limited time, it is expected that only difficult decisions in regard to incapacity would need to be referred to the committee for review.

VII. Immediate Problems To Be Met by the Medical Advisory Committee To Be Appointed.

1. To consider the adequacy of the form now in use for reporting physicians' findings.
2. To review the agency definitions of incapacity.
3. To begin the review of physicians' reports on individual cases submitted to the State office from the various county departments.
4. To explore the possibility of a plan for review of physicians' reports by local or district medical advisory committees.

Respectfully,

Horace Reid, M. D., Chairman
W. A. Howard, M. D.
McLain Rogers, M. D.

Report of the Committee on Postgraduate
Medical Teaching

The Committee on Postgraduate Medical Education submits the following report to the House of Delegates.

The Postgraduate Pediatrics Program, conducted by James G. Hughes, M. D., Memphis, Tennessee, has been a marked success. Over 500 physicians have to date taken advantage of it and have reported that the course has given them much practical help and information. Doctor Hughes has likewise conducted clinics and lay lectures in the majority of the teaching centers, the total being; Clinics 227 and lay lectures 28. All the instruction, with the exception of the first circuit in Northeastern Oklahoma, has been conducted by Doctor Hughes. The doctors who conducted the first circuit were Wayne A. Rupe, Peter G. Danis and Stanley Harrison, all of St. Louis, Missouri.

Although the program in pediatrics will not be finished until January 31, 1942, instruction has been completed in six circuits, comprising 30 teaching centers in central and eastern counties. A total of 575 physicians have enrolled and completed the course to date, the average attendance being 76 per cent. This, we believe, is excellent considering the widespread influenza epidemic during the winter months which affected the attendance, and also the fact that many actual and potential registrants have been called to military duty.

Total receipts from all sources for the course amount to \$19,991.25. Total disbursements for the program, including the first three months of 1941, total \$15,555.16, leaving a balance, as of April 1, of \$4,436.09. At the present rate of expenditures and receipts, the completion of the program, January 31, 1942, will show a surplus. This contemplated surplus, as in past years, will be prorated back to the contributing agencies according to the per centage of their contributions.

The Committee desires to express its appreciation to the Oklahoma State Medical Association for its financial participation in the Postgraduate Program, and further recommends that the House of Delegates, by resolution, express its appreciation to the Commonwealth Fund of New York, the Oklahoma State Health Department, and the Children's Bureau, for their financial assistance in making this program possible.

In these times of National Emergency when Oklahoma physicians are giving unstintingly of their time and abilities in the National Preparedness program, Postgraduate instruction of the particular type available in Oklahoma assumes inestimable value and importance. Hundreds of Oklahoma physicians are today receiving instruction brought about by this program which would otherwise be unattainable were it necessary for them to leave their respective communities to obtain it.

Three more circuits comprising a total of 15 teaching centers in 25 counties are yet to receive the Pediatric program. With adequate funds available, teaching centers are now possible in the more remote counties where the physician population is small, and travel by the instructor more difficult due to the distance between teaching centers. We refer to areas surrounding such centers as Hollis, Geymon and Idabel where the course has been offered to groups of only 10 or 12 physicians; and yet the response of these smaller groups, as exemplified by their attendance, has fully compensated the Committee for their establishment. The Committee is of the opinion that Postgraduate courses, at all times, should be so conceived that the maximum amount of instruction will be available for the greatest number of Oklahoma doctors, irrespective of their location.

Additional information concerning the program will be available at the Postgraduate Booth in the Scientific Exhibits Section of the State Medical Meeting, May 19-21.

Respectfully,
H. C. Weber, M. D., Chairman
W. P. Longuire, M. D.
M. J. Searle, M. D.

The Report of the Committee on Necrology

The committee on necrology submits the following report to the House of Delegates:

From May 17, 1940 to March 10, 1941, death has removed from our Association 17 members. They have helped to make it possible for us, by their activities in the medical profession, to enjoy the high standard our society has reached. For this we owe them a debt of gratitude and cherish and revere our memories of them. Because of their going we should not relax, rather we should tighten our traces, that we, remembering their love and devotion to our "Organized Medicine," go on to the goal of perfection.

Those physicians who have died are:

J. C. Luster	Davis	May 17, 1940
Samuel J. Fryer	Muskogee	June 19, 1940
Robert E. Thacker	Lexington	July 10, 1940
Jackson Broshears	Lawton	July 26, 1940
Chas. R. Hume		
(Honorary)	Anadarko	August 9, 1940
John A. Hatchett		
(Honorary)	Oklahoma City	August 16, 1940
Daniel M. Randel		
(Honorary)	Oklahoma City	September 24, 1940
Wm. James Jolly	Okmulgee	September 4, 1940
John I. Gastou	Shawnee	September 10, 1940
W. K. Dyer	El Reno	September 20, 1940
John O. Hudson	Braman	September 27, 1940
Le Roy Long	Oklahoma City	October 27, 1940
Walter L. Rose	Woodward	November 13, 1940
Z. Joseph Clark	Cherokee	November 14, 1940
Robert Erle Evans	Ada	December 31, 1940
H. B. Fuston	Bokchita	March, 1941
Wm. L. Brown	Hulbert	March 10, 1941

Respectfully,
R. M. Anderson, M. D., Chairman
John A. Haynie, M. D.
C. W. Tedrowe, M. D.

Report of The Publicity Committee

The Committee on Publicity submits the following report to the House of Delegates:

During its tenure, the committee has attempted to give news releases, dealing with the activities of the Association and the medical profession as a whole, as

wide a distribution as possible. Reprints of editorials as well as news stories of a pertinent nature that have appeared in The Journal have been given distribution to other state societies as well as the press.

The committee is firmly of the opinion that the profession is faced with the necessity of conducting its own educational program for the benefit of the public in view of the adverse publicity being released by others who do not believe in the present American ideals for the practice of medicine. It further recommends that all future activities of the committee continue to give honest, unbiased information in all matters which pertain to the health and welfare of the people and in such a manner that it will be understandable to the lay public.

Respectfully,
L. J. Starry, M. D., Chairman
A. Ray Wiley, M. D.
R. C. Baker, M. D.

Report of the State Cancer Committee

The Committee on Cancer submits the following report to the House of Delegates:

The committee organization was carried out in the early fall and our committee in cooperation with the State Health Department, the American Society for the Control of Cancer and the Women's Field Army have attempted to carry out the following program:

The president of each county society has appointed a cancer committee chairman. A speaker of authority, experience and ability has been found through the national society who will speak before the secondary schools in the state in the Fall.

The book, "Cancer—A Manual for Practitioners," a concise, comprehensive manual, is being purchased and given to each member of the Oklahoma State Medical Association who, in reply to a request card, expressed a desire for the book. This book is one which has been successfully used by the State of Massachusetts and is of distinct value to any doctor in both his private practice and cancer education work. The distribution of this book by requested card only has been carried out as a means of stimulating each doctor's interest in and appreciation of the cancer manual. In single copies, this book sells at \$2, but by purchasing 1,000 copies for our members, we have been able to obtain this book at a definite reduction.

At the last meeting of the committee, at which there was a full attendance, the question of a Speakers' Bureau was discussed. The committee will appreciate the opinion of the House of Delegates as to the advisability of having a Speakers' Bureau. This bureau is, of course, to be made up of members of the profession throughout the state who at any time may be available to speak before lay audiences on "Cancer."

Because of unavoidable delay in the selection of the State Commander of the Women's Field Army of Oklahoma, our work with that Field Army has not been as active to date as it would have been. However, with the appointment of Mrs. Lloyd D. McClatchey, Bartlesville, as State Commander, the placing of the Cancer manual in the hands of each member of the Association and the series of competent talks to be made by Dr. F. L. Rector of the American Society for the Control of Cancer before secondary schools of the state, the Cancer Education Program has been coordinated.

The foregoing program, particularly the distribution of the cancer manuals, would have been impossible had it not been for the active cooperation and participation of the Oklahoma State Health Department under the guidance of Dr. Grady R. Mathews.

The committee at this time requests the continued allotment of funds amounting to \$750. in view of the fact that these funds have not been used up to date.

Any further details pertaining to the work of the committee will be given if desired.

Respectfully yours,
Gregory E. Stanbro, M. D., Chairman
Ralph A. McGill, M. D.
Paul B. Champlin, M. D.

Report of the Committee on Public Relations

The Committee on Public Relations submits the following report to the House of Delegates:

During the months since its appointment, the committee has given every help possible to all agencies and persons who have requested assistance from the Association on matters coming under its scope and jurisdiction.

The House of Delegates is well aware of the issue presented at the last General Election when State Question 241 which would have amended the Medical Practice Act came before the people for a vote. Every member of the Association is no doubt aware that the question failed of passage for lack of sufficient affirmative votes. During this campaign, the committee submitted, when requested, its views and research on the problem and expressly wishes to express its appreciation to all persons and organizations both within and without the Association who assisted in impartially presenting to the public for their consideration what, in the opinion of the committee, were true facts concerning the question.

On January 1 the Eighteenth Session of the Oklahoma Legislature convened and since that time the committee has endeavored to keep in touch with all problems presented to the Legislature dealing with the health and welfare of the people in order that it might be in a position, when requested, to render assistance to Legislators in working out these problems. Whenever desired by members of the Legislature, all possible assistance, data and information have been placed at their disposal. At the time of the rendering of this report, several controversial issues concerning the health and welfare of the people of Oklahoma are before the Legislature and, as previously stated, the committee is working with the Legislature on these problems. As soon as the Legislature adjourns, a complete survey of all laws passed affecting the health and welfare of the people will be published in The Journal. At the present time, the committee is of the opinion that no legislation has been passed which will operate to the detriment of the general health of the population of the state.

The committee has not in the past nor does it intend in the future to attempt to influence legislation other than in the manner which is at the present time available to every citizen of the United States and other organizations of a like nature. As long as freedom of the press and freedom of speech are inalienable rights, doctors of medicine must individually as well as collectively assume their responsibility in helping to advise in the working out of problems concerning health and welfare. Individual members of the Association must not look to or expect their Association as such to assume this entire responsibility but must as stated previously, consider it an individual duty.

Your committee begs leave to express its appreciation for the cooperation given by the officers and Council of the Association as well as individual county societies. Its task has been arduous but interesting and it has faithfully tried to discharge its duties.

Respectfully,

L. D. Hudson, M. D., Chairman
E. S. Crow, M. D.
Harper Wright, M. D.

Councilor Reports

March 21, 1941.

ANNUAL REPORT OF DISTRICT NO. 1

To the President and House of Delegates of the Oklahoma State Medical Association.
Gentlemen:

The First district is one of the largest of the state and its extent from east to west is more than three hundred miles. As your councilor I admit that I have not visited every county in the district during the year

as I have to conserve my time as much as possible in keeping the wolf from the door.

I do, however, keep in close touch with the physicians and county societies in the district. There is a fairly active society in Alfalfa County which holds joint meetings with Woods County. Woods County has one of the active societies in the district. It takes in physicians from other counties and has three Kansas doctors as associate members.

Woodward County has the largest society of the district and takes in members from Harper, Beaver, and Dewey counties. There are not sufficient doctors in these counties to maintain a separate society.

Major county does not have enough doctors to support a separate society and they affiliate with the Garfield county society. This is because of the paved roads to Enid.

Texas county has organized a county society which is doing fairly well and credit for this should go to Dr. Blue of Guymon.

Cimarron county having only one or two doctors can not organize and maintain a going society.

We have a loyal and active group of doctors in the First District and they are always ready to do their part in the efforts to promote the interests of organized medicine.

Respectfully Submitted

O. E. TEMPLIN, M.D.
Councilor District No. 1.

March 28th, 1941.

ANNUAL REPORT OF DISTRICT NO. 8

To The President and House of Delegates of
Oklahoma State Medical Association.
Gentlemen:

As Councilor of District Number 8, I have the pleasure of making the following report for this District during the year 1940 to 1941.

The following counties have a well organized county society and are functioning as such: Muskogee, Okmulgee, Craig, Ottawa, Cherokee and Mayes.

Muskogee County Medical society meets the first and third Mondays. Dr. A. N. Earnest of Muskogee is president. Since January 1941, they have had a dinner meeting on the third Mondays, holding joint meetings with Cherokee, Okmulgee, and Sebastian County, Arkansas. One was planned in May with Ottawa County but as the Eighth District Meeting is close at hand, this meeting has probably been postponed.

Okmulgee County meets on the second Monday of each month. Dr. I. W. Bollinger of Henryetta is President. Okmulgee County has held two joint meetings with Muskogee County. One was held in Okmulgee and the other in Muskogee. The Okmulgee County Medical Society meets in Okmulgee, Henryetta and Okemah, alternately.

Cherokee County meets the first Tuesday of each month. Dr. P. H. Medearis of Tahlequah is president. The Cherokee County Medical society was host to the District Meeting in October, 1940. Cherokee has held one joint meeting with Muskogee.

Craig County does not have a designated meeting night but has been meeting every month since September 1940. Dr. P. L. Hays of Vinita is president and this society is functioning well.

Ottawa County meets on the last Thursday of each month. Dr. J. W. Craig of Miami is president. Ottawa County was host to the District Meeting in the Spring of 1940.

Mayes County is organized but has not held regular meetings. Dr. S. C. Rutherford of Locust Grove is president.

Wagoner County has as President Dr. H. K. Riddle of Coweta, Oklahoma. This county society, though organized, has no regular meeting date.

Delaware, Adair and Sequoyah counties have no organized society. This is due to the scarcity of physicians in these counties. Attempts have been made and will be made to amalgamate these counties with the other organized county societies; however these societies should not lose their identity.

The Eighth Councilor District Medical Society was organized in 1939 at Muskogee by Dr. Ewing. The first meeting was held in Miami in the Spring of 1940, with Dr. Chestnut of Miami, president, Dr. Sayles of Miami, secretary. The meeting was attended by about 60 physicians. It was further organized and held its next meeting in October, 1940 at Tahlequah. Dr. Isadore Dyer of Tahlequah was elected president; Dr. H. A. Scott of Muskogee, vice-president; Dr. I. W. Bollinger of Henryetta, secretary. The Tahlequah meeting was well attended. The next meeting was set for Okmulgee and will be held in late April or early May.

I have personally visited Ottawa, Cherokee, Okmulgee and Muskogee County Medical Societies and think that they are functioning well. I will attempt in the near future to visit the Craig and Mayes County societies.

Because of the demands of the Defense Program of our Country, many physicians have been called to the Colors. This has crippled most of the societies of our district in numbers, but those remaining are carrying on with good effect.

Sincerely,
Shade D. Neely, M.D.
Councilor District No. 8.

April 4, 1941.

ANNUAL REPORT OF DISTRICT NO. 3

To the President and House of Delegates of the
Oklahoma State Medical Association.
Gentlemen:

Rather than give a statistical report consisting of mere figures as to the total of meetings, or the numbers or subjects of the paper presented in the counties composing this Councilor District, it seems pertinent to

comment briefly on some of the impressions gained in my association with physicians.

First to be mentioned is the practical unanimity with which the physicians have answered the various calls coming to them in the Selective Service Act, regardless of their personal convictions, and in many instances without remuneration. This is but another proof that physicians as a class have always been among the most public spirited of our citizens — which explains perhaps why there seems to be present in some quarters a tendency to exploit the profession.

As regards our county secretaries may I say that in my judgment the "mine run" of our county secretaries composes a very good average. The County Secretary has it in his power to "make" the county society — or to ruin its effectiveness. It is to be hoped that our County Secretaries meeting will be established as an annual School for Secretaries and that our county secretaries shall be kept in office for several years and regularly attend the Secretaries' meeting to increase their efficiency.

A number of our counties have held joint meetings and have brought interesting and instructive speakers from distant cities. This movement is to be commended for the feeling of comradeship, for the larger acquaintance and outlook which it gives to those who attend these meetings.

There is this to be said, however: We need to encourage our own local members to prepare papers and reports for our county meetings. In these days when the isms and theorists are so vocal, the physicians need also to have some ideas, and should express them jointly and with more incisiveness than we have spoken in the past. The need for professional cooperation is greater perhaps today than it has ever been and your Councilor desires an awareness on the part of the profession of present-day tendencies and their threat to our continued high service to the people. This should be the aim of all professional cooperation.

Very respectfully submitted,
A. S. Risser, M.D.
Councilor District No. 3.

ANNUAL AUDIT REPORT

Oklahoma State Medical Association,
210 Plaza Court,
Oklahoma City, Oklahoma.

Gentlemen:

We hereby certify that we have audited the Books of Account of the Oklahoma State Medical Association, Oklahoma City, Oklahoma, and have prepared the Balance Sheet and Receipts & Disbursements Statement from January 1, 1940, to December 31, 1940, incorporating in this Receipts & Disbursements Statement the first three months audited by Mr. Glenn R. Davis, Muskogee, Oklahoma.

We believe the Balance Sheet reflects the true financial condition of the Association as of December 31, 1940.

H. E. COLE COMPANY
BY: H. E. COLE
Certified Commercial Account

OKLAHOMA STATE MEDICAL ASSOCIATION Oklahoma City, Oklahoma

BALANCE SHEET December 31, 1940

ASSETS	Total	Membership Fund	Journal Fund	Medical Defense Fund	Annual Meeting
Petty Cash	\$ 10.00	\$	\$ 10.00	\$	\$
Cash in Bank	3136.55	660.68	1442.53	993.34	40.00
U. S. Treasury Bonds	6178.88	1235.78	.....	4943.10	.....
TOTAL ASSETS	\$ 9325.43	\$ 1896.46	\$ 1452.53	\$5936.44	\$40.00
LIABILITIES & RESERVES					
Accrued Soc. Sec. Taxes	\$ 18.54	\$ 18.45	\$	\$	\$
Operating Reserve	9306.98	1878.01	1452.53	5936.44	40.00
TOTAL LIABILITIES & RESERVES	\$ 9325.43	\$ 1896.46	\$ 1452.53	\$5936.44	\$40.00

OKLAHOMA STATE MEDICAL ASSOCIATION
Oklahoma City, Oklahoma

STATEMENT OF CASH RECEIPTS & DISBURSEMENTS
January 1, 1940 to December 31, 1940

	Total	Membership Fund	Journal Fund	Medical Defense Fund	Annual Meeting
Cash Balance—January 1, 1940	\$ 3220.60	—\$ 1578.76	\$ 3356.36	\$1443.00	\$
<i>Receipts:</i>					
Membership Dues	14462.00	13008.00	.....	1454.00	.....
Membership Penalties	4.00	4.00	.....	.....	.....
Journal Advertising & Subscriptions	7297.00	.....	7297.00	.....	.....
U. S. Bond Interest	297.74	75.79	.....	221.95	.....
Refund—Post Graduate Committee	740.51	740.51	.....	.....	.....
Sale of U. S. Treasury Bonds	5408.06	2173.57	.....	3234.48	.....
Dues—Not Deposited Shown on previous audit	282.00	282.00	.....	.....	.....
Excess Salary Drawn by Oltha Shelton	288.75	288.75	.....	.....	.....
Okla. Cancer Committee, etc.	298.32	298.32	.....	.....	.....
Sale of Office Equipment	7.00	7.00	.....	.....	.....
Refund on Progress—By Tulsa County Medical Ass'n....	6.00	6.00	.....	.....	.....
Refund on Surety Bond	9.86	9.86	.....	.....	.....
Annual Meeting	40.00	.....	.....	.....	.....
TOTAL CASH TO BE ACCOUNTED FOR	\$32361.84	\$15315.04	\$10653.36	\$6353.44	\$40.00
<i>Disbursements:</i>					
	Total	Membership Fund	Journal Fund	Medical Defense Fund	Annual Meeting
Salaries	\$ 6683.51	\$ 4977.25	\$ 1706.26	\$	\$
Journal Printing & Mailing	3746.44	.....	3746.44	.....	.....
Journal Engraving	199.59	.....	199.59	.....	.....
Press Clipping Service	36.00	.....	36.00	.....	.....
Telephone & Telegraph	438.57	438.57	.....	.....	.....
Postage	483.65	458.65	25.00	.....	.....
Office Rent	300.00	300.00	.....	.....	.....
Stationery & Printing	228.48	228.48	.....	.....	.....
Traveling—Exec. Sec.	522.80	502.47	20.33	.....	.....
Office Supplies	459.94	459.94	.....	.....	.....
Council & Delegate Expense	561.49	561.49	.....	.....	.....
Soc. Sec. Tax	\$125.60	.....	.....	.....	.....
Employees	67.00	58.60	5.75	.....	.....
Post Graduate—*See Note	3000.00	3000.00	.....	.....	.....
Group Hospital Ins. Organization Exp.	55.97	55.97	.....	.....	.....
Notes Paid	4000.00	4000.00	.....	.....	.....
Office Eqpt. Purchased	614.08	514.82	99.26	.....	.....
Oklahoma City Chamber of Commerce Membership	25.00	.....	25.00	.....	.....
Refund of Membership Penalties	4.00	4.00	.....	.....	.....
Surety Bond	55.58	55.58	.....	.....	.....
Audit—Jan. 1, 1939 to March 30, 1940	356.18	178.09	178.09	.....	.....
Insurance	6.18	6.18	.....	.....	.....
Annual Meeting	83.66	75.81	7.85	.....	.....
Dues Refunded	26.00	24.00	.....	2.00	.....
Certificate Frames	205.35	205.35	.....	.....	.....
Sundry	795.34	235.57	559.77	.....	.....
Attorney Fee	100.00	.....	.....	100.00	.....
U. S. Bonds Purchased	6178.88	1235.78	.....	4943.10	.....
TOTAL DISBURSEMENTS	\$29225.29	\$17570.85	\$ 6609.34	\$5045.10	\$
Cash Balance—December 31, 1940	\$ 3136.55	—\$ 2255.81	\$ 4044.02	\$1308.34	\$40.00
Adjustments .....	.....	2916.49	—2601.49	—315.00	.....
CORRECTED BALANCES	\$ 3136.55	\$ 660.68	\$ 1442.53	993.34	\$40.00

Bank Accounts:

Membership Fund	\$ 660.68
Journal Fund	1442.53
Medical Defense Fund	993.34
Annual Meeting	40.00
	\$3136.55

* NOTE; One-Half of 1939 contributions, or \$1000.00, paid in 1940.

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OKLAHOMA CITY, OKLAHOMA



STAFF

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ASSOCIATION ACTIVITIES

Dr. Angus Appointed to Council As Dr. Hardy Resigns

The resignation of Dr. Walter A. Hardy, Ardmore, from his office as Councilor of District No. 5 and the appointment of Dr. Donald A. Angus, Lawton, to serve out the remainder of the term which expires at the Annual Meeting in May was announced this month.

Dr. Hardy's resignation was accepted at the last meeting of the Council April 9 in Oklahoma City. In explanation of his retirement from the Council of which he was an active member and a regular attendant, Doctor Hardy pointed out that it was necessary that he devote his entire time to the Hardy Sanitarium since a great number of physicians in that district have been inducted into the army. Councilor District No. 5 includes Caddo, Comanche, Cotton, Grady, Love, Stephens, Jefferson, Carter, and Murray counties.

President-Elect of Clinical Pathologists to Speak

Dr. J. L. Lattimore, Topeka, Kans., president-elect of the American Society of Clinical Pathologists will be guest speaker at a dinner at 7 o'clock Wednesday night May 21 in Oklahoma City given by members of the Oklahoma State Society of Medical Technologists.

University Alumni Association To Hold Annual Dinner

The University of Oklahoma Alumni association will hold its annual dinner in connection with the Oklahoma State Medical Association from 12:30 to 2 o'clock Tuesday afternoon May 20 at the Skirvin Hotel. The association will inaugurate the decade class dinners, this year honoring the classes of 1911, 1921 and 1931.

The program committee is preparing an excellent program for all the alumni, according to Dr. Wayne M. Hull, secretary of the association.

Dr. Hull Is New Secretary

Dr. Wayne M. Hull has actively assumed the secretaryship of the Oklahoma University Medical School Alumni association, it was announced by association officers. Doctor Hull succeeds Dr. W. W. Sanger who resigned to enter military service at Hospital Station, Fort Sill.

Surgeons Committee Will Meet

Members of the Oklahoma Committee of the American College of Surgeons will meet Monday at 1:30 p. m. May 19 at the Wilson Room in the Skirvin Hotel, Oklahoma City.

Delegates and Alternates Are Appointed to Annual Meeting

In compliance with the by-laws of the Oklahoma State Medical Association, the delegates and alternates of the county societies who have been certified to the office by the local county societies are hereby announced.

All delegates and alternates will be seated in accordance with the membership certified as of April 19.

COUNTY	DELEGATE	ALTERNATE
Alfalfa	H. E. Huston, Cherokee	L. T. Lancaster, Cherokee
Atoka-Coal	T. H. Briggs, Atoka	W. W. Cotton, Atoka
	J. D. Clark, Coalgate	R. D. Cody, Centrahoma
Beckham	H. K. Speed, Sayre	
Blaine	W. H. Bohlmann, Watonga	O. J. Colwick, Durant
Bryan	John A. Haynie, Durant	
Caddo	R. E. Johnston, Anadarko	M. E. Phelps, El Reno
Canadian	J. T. Phelps, El Reno	Fred T. Perry, Healdton
Carter	Walter Hardy, Ardmore	James Smith, Ardmore
	F. W. Boadway, Ardmore	Robert K. McIntosh, Tahlequah
Cherokee	John S. Allison, Tahlequah	
	Henry L. Deutsch, Stilwell	
	Wm. H. Newlin, Sallisaw	
Choctaw	E. A. Johnson, Hugo	
Cleveland	D. G. Willard, Norman	M. M. Wickham, Norman
	M.P. Prosser, Norman	W. A. Fowles, Norman
		W. H. Atkins, Norman
Comanche	O. L. Parsons, Lawton	G. S. Barber, Lawton
Cotton	G. W. Baker, Walters	Mollie Seism, Walters
Craig	Felix M. Adams, Vinita	J. M. McMillan, Vinita
Creek	Paul Mote, Sapulpa	Ellis Jones, Sapulpa
	E. W. King, Bristow	W. G. Bisbee, Bristow
Custer	Ross Deputy, Clinton	Harry Cushman, Clinton
	J. G. Woods, Weatherford	C. Wiggins, Clinton
Garfield	O. R. Gregg, Enid	
	W. P. Neilson, Enid	
Garvin	G. L. Johnson, Pauls Valley	Robt. M. Alexander, Paoli
Grady	J. T. Renegar, Tuttle	
Grant	E. E. Lawson, Medford	
Greer	J. B. Hollis, Mangum	R. W. Lewis, Granite
Harmon	L. E. Hollis, Hollis	S. W. Hopkins, Hollis
Hughes	W. E. Floyd, Holdenville	Troy Long, Holdenville
Jackson	J. B. Hix, Altus	E. S. Crowe, Olustee



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COUNTY	DELEGATE	ALTERNATE
Jefferson	J. I. Hollingsworth, Waurika	
Kay	C. W. Arrendell, Ponca City	Merl Clift, Blackwell
Kingfisher	Dewey Mathews, Tonkawa	G. H. Yeary, Newkirk
Kiowa	C. M. Hodgson, Kingfisher	J. R. Taylor, Kingfisher
LeFlore	B. H. Watkins, Hobart	
Lincoln	F. P. Baker, Talihina	
Logan	Ned Burleson, Prague	J. S. Rollins, Prague
Marshall	L. A. Hahn, Guthrie	
Mayes	J. L. Holland, Madill	
McClain	Carl Puckett, Oklahoma City	
McCurtain	O. O. Dawson, Wayne	Paul Sizemore, Broken Bow
McIntosh	W. W. Williams, Idabel	D. E. Little, Eufaula
Murray	Wm. A. Tolleson, Eufaula	W. D. Delay, Sulphur
Muskogee	F. E. Sadler, Sulphur	L. S. McAlister, Muskogee
	C. E. White, Muskogee	J. T. McInnis, Muskogee
	J. H. White, Muskogee	
Noble	C. H. Cooke, Perry	D. F. Coldiron, Perry
Okfuskee	A. S. Melton, Okemah	W. P. Jenkins, Okemah
Oklahoma	C. R. Rountree, Okla. City	John E. Heatley, Okla. City
	W. F. Keller, Okla. City	L. J. Starry, Okla. City
	W. W. Rucks, Jr., Okla. City	L. C. McHenry, Okla. City
	John F. Burton, Okla. City	F. Redding Hood, Okla. City
	Walker Moreledge, Okla. City	Tom Lowry, Okla. City
	L. J. Moorman, Okla. City	Patrick S. Nagle, Okla. City
	Ben H. Nicholson, Okla. City	Oscar White, Okla. City
	C. M. Pounders, Okla. City	C. P. Bondurant, Okla. City
	D. H. O'Donoghue, Okla. City	Onis Hazel, Okla. City
	George H. Garrison, Okla. City	Wendell Long, Okla. City
	Wann Langston, Okla. City	D. W. Branham, Okla. City
	W. E. Eastland	H. Dale Collins, Okla. City
Okmulgee	J. C. Matheney, Okmulgee	W. C. Vernon, Okmulgee
	J. G. Edwards, Okmulgee	G. A. Kilpatrick, Henryetta
Osage	C. K. Logan, Hominy	C. H. Guild, Shidler
Ottawa	M. M. DeArman, Miami	F. L. Wormington, Miami
	M. A. Carnell, Picher	L. P. Hetherington, Miami
Pawnee	R. E. Jones, Pawnee	
Payne	M. L. Peter, Stillwater	R. E. Waggoner, Stillwater
	R. E. Leatherock, Cushing	
Pittsburg	Elbert Shuller, McAlester	Thomas T. Norris, Krebs
	T. H. McCasley, McAlester	Wm. C. Witt, McAlester
Pontotoc	Ollie McBride, Ada	Sam A. McKeel, Ada
	M. M. Webster, Ada	
Pottawatomie	G. S. Baxter, Shawnee	E. Eugene Rice, Shawnee
	W. M. Gallaher, Shawnee	H. G. Campbell, St. Louis
Pushmataha	D. W. Connally, Antlers	P. B. Rice, Antlers
Rogers	P. S. Anderson, Claremore	E. E. Bigler, Claremore
Seminole	A. B. Stephens, Seminole	
Stephens	C. N. Talley, Marlow	C. B. Waters, Duncan
Texas	Johnny A. Blue, Guymon	Morris Smith, Guymon
Tillman	O. G. Bacon, Frederick	C. C. Allen, Frederick
Tulsa	W. S. Larrabee, Tulsa	Marvin Henley, Tulsa
	M. J. Searle, Tulsa	John Perry, Tulsa
	George Osborn, Tulsa	W. A. Showman, Tulsa
	C. H. Haralson, Tulsa	J. W. Rogers, Tulsa
	R. M. Shepard, Tulsa	H. Lee Farris, Tulsa
	W. Albert Cook, Tulsa	W. A. Walker, Tulsa
	R. C. Pigford, Tulsa	Ralph McGill, Tulsa
	H. B. Stewart, M. D., Tulsa	Roy L. Smith, Tulsa
Wagoner	J. H. Plunkett, Wagoner	H. K. Riddle, Coweta
Washington-Nowata	K. D. Davis, Nowata	S. P. Roberts, Nowata
	O. I. Green, Bartlesville	R. C. Gentry, Bartlesville
	H. G. Crawford, Bartlesville	H. C. Weber, Bartlesville
Washita	A. H. Bungardt, Cordell	
Woods	Dan B. Ensor, Hopeton	C. A. Traverse, Alva
Woodward	Dwight Pierson, Buffalo	F. Z. Winchell, Buffalo
	John L. Day, Supply	Joe L. Duer, Woodward
	M. H. Newman, Shattuck	O. C. Newman, Shattuck
	Duke Vincent, Vici	J. C. Duncan, Forgan

Opportunity for Practice

An excellent opportunity for a doctor who would like a general practice is open in a city which lies in the south plains of West Texas.

Any doctor interested is asked to correspond with Mr. A. K. Krause at Roperville, Texas.

Twelve members of the Okfuskee and Okmulgee County Medical societies held a joint meeting April 14. The principal speakers were Dr. R. C. Pigford of Tulsa who discussed heart failure and Dr. Ned R. Smith, also of Tulsa, whose subject was "Doctor, It's My Nerves."

Welcome To

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Official Headquarters

Oklahoma State Medical Association 1941 Annual Meeting

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NEWS FROM THE COUNTY SOCIETIES

Members of the Kingfisher Medical society were invited when the Logan County Medical Society observed their March meeting with a steak dinner at the Cimarron Valley Wesley hospital.

Dr. W. F. Keller, Oklahoma City, talked on bedside and office and laboratory procedure and Dr. Bert Keltz, Oklahoma City, discussed diabetes. Representing the Kingfisher County society at the dinner were Dr. A. O. Meredith, Dr. F. C. Lattimore, Dr. C. M. Hodgson and Dr. John R. Taylor, all of Kingfisher. The doctors voted to have a general discussion of pernicious anemia at their next meeting April 22.

The society is now working for a Central County Medical association which would hold meetings with neighboring counties and thus build better programs.

Dr. A. Ray Wiley, Tulsa, was the speaker at the meeting of the Creek County Medical society March 11 at Bristow. Fourteen members were present to hear him lecture on "Treatment of Pain in Incurable Cancer Cases."

At the April 8 meeting, members heard Dr. R. Q. Goodwin, Oklahoma City, discuss "Drugs in the Sulfanilamide Group." The meeting was at Sapulpa. The society has gone on record as approving a compulsory state vaccination law and it is the plan of the Creek County society to submit this resolution with the State Association and other county societies.

Members of the Cherokee County Medical society met March 4 and April 8 at the Indian hospital at Tahlequah. At both meetings, films from Davis and Geck were shown. Dr. James K. Gray, who attended the Children's Bureau Meeting in the Interest of Maternal and Child Health March 24-26 in Washington, D. C., reported on the most interesting facts brought to light. The effects of war on children was brought out as Dr. Martha Elliott, assistant chief of the bureau, had just returned from England. It was announced at the society meeting that Dr. Isadore Dyer, Tahlequah, has been appointed a member of the Public Health subcommittee

on educational and scientific exhibits for the meeting of the American Congress on Obstetrics and Gynecology April 2-10, 1942 in St. Louis, Mo.

Dr. E. D. Greenberger, McAlester, was elected the new president when members of the Southeastern Oklahoma Medical association met April 10 at McAlester in the First Presbyterian church. Other officers are: Dr. Rush Wright, Poteau, vice president; and Dr. W. H. Kaeiser, secretary and treasurer.

The morning program included a business session, election of officers and a picture on studies in human fertility. A luncheon was served at 12 o'clock by the Women's auxiliary of the Pittsburg County Medical society.

The afternoon session included: An invocation, the Rev. Samuel R. Braden, pastor; an address of welcome by Dr. L. S. Willour, McAlester; and a response to the welcome address by Dr. J. S. Fulton, Atoka. Scientific papers read were: "Diagnosis and Treatment of Vaginal Discharge," Dr. W. L. Shippey, Poteau; "Functional Uterine Bleeding," Dr. J. T. Colwick, Durant, followed by a discussion of the subject by Dr. Paul C. F. Vietzke, Tahlequah; "Treatment of Induced and Spontaneous Abortion," Dr. J. F. Park, McAlester, and a discussion by Dr. T. H. McCarley, McAlester; "Investigation and Treatment of Sterility," Dr. P. B. Rice, Antlers, and a discussion by Dr. C. E. Lively, McAlester; and "General Discussion of Symposium and Particular Gynecological Office Procedures," Dr. Wendell Long, Oklahoma City.

Dr. H. R. Anderson, head of the county health unit, was the principal speaker at the meeting of the Blaine County Medical society March 20 at the Watonga hospital. Doctor Anderson made a talk outlining the work, scope and purpose of the clinic. His talk was followed by a general discussion of group malpractice insurance. Other entertainment consisted of a dinner with the Presbyterian guild. The next meeting was set for the third Thursday in April.

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Members of the Stephens County Medical society met March 26 at Duncan to hear guest speakers from Oklahoma City discuss medical problems in which they specialize. Speakers and their topics were: Dr. Coyne Campbell, "Psychiatric Problems of Interest to the General Practitioner," and Dr. Grider Penick, "Common Gynecological Problems." The society is interested in attending the postgraduate course in pediatrics conducted by Dr. James Hughes.

Ten members of the Osage County Medical society convened March 10 at the Duncan hotel. The program consisted of a paper, "Some Common Urological Conditions of Interest to the General Practitioner," by Dr. James Rogers, Tulsa; and two case reports primarily concerning chest conditions by Dr. S. C. Shepard, also of Tulsa. At the April 14 meeting, members discussed interesting cases which they treated during last winter.

Twenty-five members of the Muskogee County Medical society met at 6:30 p. m. March 17 for their regular meeting. Dinner guests were doctors from Sebastian County, Ark., and they presented the evening's program.

Lectures included: "Compound Fractures," Dr. S. J. Wolfermann, Fort Smith; "Cancer of the Breast," Doctor Hoge, Fort Smith; and "Diseases of the Rectum," Doctor Crigler, also of Fort Smith.

Speakers at the April 7 meeting at Muskogee were Dr. Coyne Campbell and Dr. Walker Morledge, both of Oklahoma City.

Members of the Oklahoma County Medical society met March 24 at the Medical school auditorium. Ninety-five members were present. The program was: "Electro-Surgical Treatment of the Pathologic Cervix," Dr. Kenneth J. Wilson, with a discussion opened by Dr. Gerald Rogers; and "Functional Disorders of the Feet," Dr. Elias Margo, with Dr. Paul C. Colonna opening the discussion.

The next meeting will be April 22 at the Medical School auditorium and special guests and the topic of their lectures will be: "Medico-Legal Advice," Mr. Draper Grigsby and "Rights of the Medical Witness," Judge Clarence M. Mills.

Dr. W. L. Brown
(1874-1941)

Cherokee County lost one of its pioneer physicians when Dr. W. L. Brown passed away the morning of March 11 at his home in Hulbert. He had been ill for several months.

Known throughout the county, he had practiced there since the days that immediately followed statehood. During most of his medical career, he was located at Hulbert.

Funeral services were held at 2 o'clock Wednesday afternoon at the home and burial was in the Hulbert cemetery. His survivors include the widow; a daughter, Mrs. Lee Stevens, Wagoner; one son, Fay D. Brown, Muskogee; his mother, Mrs. Lena Brown, Morrillton, Ark.; and a brother, G. B. Brown, Morrillton.

Opportunities for Practice

Each month new notices of opportunities for practice throughout Oklahoma come to the attention of this office. With the induction of doctors into the armed forces of the nation to speed up the Medical Preparedness program, these opportunities are increasing.

Each notice is placed on file in the Executive office of the Association. Any doctor who desires this information will receive a complete list of the opportunities upon writing this office at 210 Plaza Court, Oklahoma City.

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doctors for doctors
of Oklahoma*



Group Hospital Service of Oklahoma has just completed its first year of operation. Thus it is a propitious time to review its past accomplishments and to make a prophetic analysis and observation of the position it is to occupy in the future sociological way of life of the Professions of our people.

Group Hospital Service has extended its protection to 17,000 members for whom it has paid 800 hospital bills. Twice it has been awarded the official approval of the American Hospital Association issued by the Commission on Hospital Service. The first award came at the end of the first six months' period of service and the second on March 10th of this year.

The standards for the American Hospital Association approval of Group Hospital Service plans cover such features as non-profit organization; public welfare; representation of the public, professional and hospital groups upon the directorates of the plan; responsibility of the hospital for subscribers' care; free choice of hospital and physician; economic and actuarial soundness and efficient administration. Annual approval by the Association is based upon consideration of the plan's progress, soundness of its administrative policies and its financial position.

Practically every large city in the United States has a non-profit hospital service plan in operation. The member hospitals of these plans contain more than two-thirds of the total bed capacity of non-governmental hospitals in this country. There are sixty-six other approved plans located in twenty-eight states and one province, carrying 6,500,000 subscribers. During the past year, 1,750,000 subscribers were enrolled for the first time. The American Hospital Association estimates that these plans will pay hospital bills to the extent of \$35,000,000 during the year 1941. This amount is greater than the combined revenue of all endowment capital, and from community and individual philanthropy for these hospitals.

While the hospital service movement has grown by leaps and bounds and now has become one of the truly great enterprises in America, still it probably is in its infancy, for the solution to the problem will not have been approached until the 6,500,000 members approximate the 60,000,000 who probably would be carried under a compulsory program. Obviously, this program is a pioneer in a new era. And there never was a great man or woman who rose to greatness without enduring criticism that would have defeated a lesser character. And, doubtless, some of that criticism was justified because they dared to venture into the unknown, and by attempting the new and untried, they dared to make mistakes and profit by them. Such is the penalty, as well as the reward, of greatness.

There never was a great machine invented and built that ran to perfection from the beginning. The engineers would say that it still had "bugs" in it. But bugs have failed to whip the electric light, the locomotive, the telephone, the aeroplane, the radio, and countless other wonders that are commonplace necessities today, but great nevertheless.

There never was a great social movement that was born full blown to be embraced as Utopian by all for whose benefit it was designed. Governments, philoso-

phies, religions, laws, cooperatives and unions of all kinds have had to struggle in the face of almost insurmountable obstacles, and only the great survived to fight on for the ideas they believed and the ideals they cherished. And of all the obstacles, the most difficult to overcome was criticism and abuse without a constructive quality.

Prepaid hospital care without profit is a part of a great voluntary social movement — one of the most significant of our time. Its performance, even thus far, not only justifies its existence, but proclaims it a social necessity. True, the whole program is still new. It has no beaten paths to follow. It is a great ideal of service to our people that still is in the throes of growing pains and as such, in this crystallizing period, there are many times when the only resort is to the method of trial and error. Yes, this program has had "bugs" in it, too. Mistakes have been made and we are grateful that they have not been serious. We are thankful, too, that the program has that quality of greatness that has enabled it to profit by mistakes and rise above them. As we venture farther beyond the frontiers, probably more mistakes will be made but we know that the program will rise above these, too, to great heights.

The first year of our own plan has not been a bed of roses. We had our trials and then our growing pains. But, even now, the position of Group Hospital Service in Oklahoma should be a source of satisfaction to every member of the Oklahoma State Medical Association. Let us remember, too, that Group Hospital Service never was conceived nor thought of as a competitive plan; never intended as a medium of gain for any individual, profession or hospital. Its objectives are sociologically designed to preserve the American way of voluntary protection without profit, without charity and without compulsion. In these objectives, we all should join in bringing the public to a constructive understanding and cooperation.

Note to Physicians:

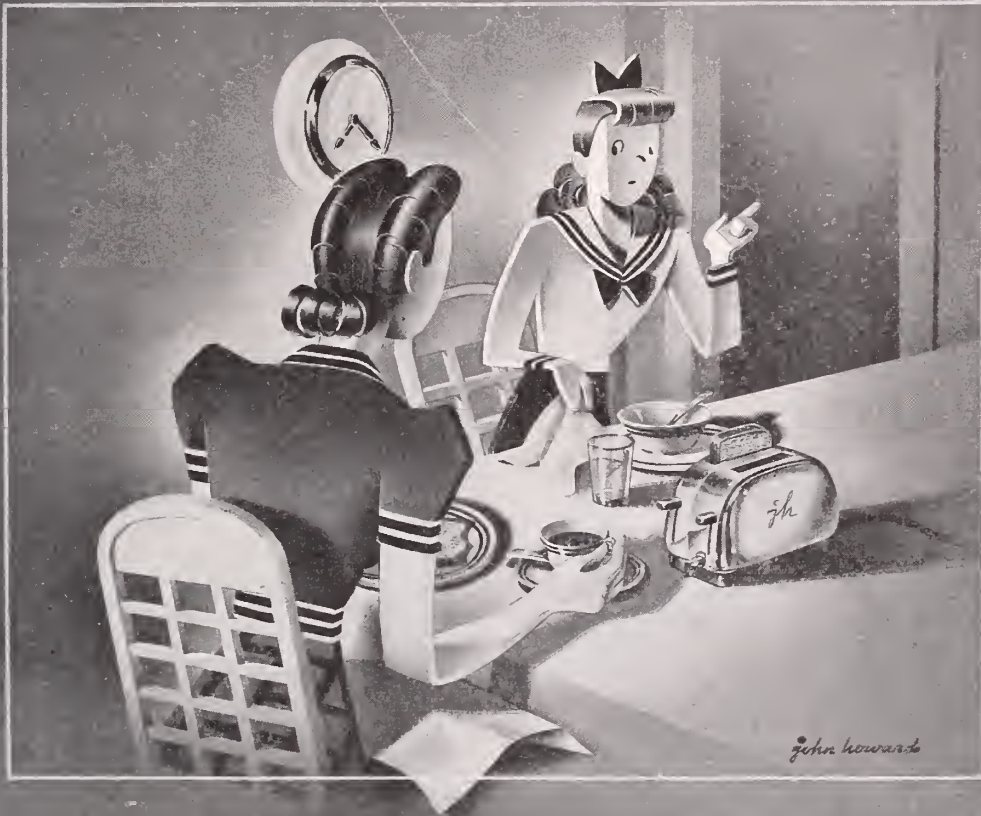
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OFFICERS OF COUNTY SOCIETIES, 1941



COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Adair.....			
Alfalfa.....	H. E. Houston, Cherokee	L. T. Lancaster, Cherokee	Last Tues. Each 2nd Mo.
Atoka-Coal.....	J. B. Clark, Coalgate	J. S. Fulton, Atoka	
Beckham.....	H. K. Speed, Sayre	T. W. Pratt, Cheyenne	Second Tues, eve.
Blaine.....	L. R. Kirby, Okeene	W. F. Griffin, Watonga	
Bryan.....	J. T. Colwick, Durant	W. K. Haynie, Durant	Second Tues, eve.
Caddo.....	E. W. Hawkins, Carnegie	G. E. Haslam, Anadarko	
Canadian.....	P. F. Herod, El Reno	A. L. Johnson, El Reno	Subject to call
Carter.....	R. C. Sullivan, Ardmore	H. A. Higgins, Ardmore	
Cherokee.....	P. H. Medearis, Tahlequah	Isadore Dyer, Tahlequah	
Choctaw.....	C. H. Hale, Boswell	Floyd L. Waters, Hugo	Thursday nights
Cleveland.....	D. G. Willard, Norman	Phil Haddock, Norman	
Comanche.....	G. G. Downing, Lawton	Donald Angus, Lawton	Third Friday
Cotton.....	Mollie Scism, Walters	R. M. Van Matre, Walters	
Craig.....	Powell L. Hays, Vinita	Paul G. Sanger, Vinita	Third Tuesday
Creek.....	P. K. Lewis, Sapulpa	Wm. P. Longmire, Jr., Sapulpa	4th Thursday
Custer.....	C. Doler, Clinton	W. C. Tisdal, Clinton	Wed. before 3rd Thur.
Garfield.....	V. R. Hamble, Enid	John R. Walker, Enid	3rd Thursday
Garvin.....	Robert M. Alexander, Paoli	John R. Callaway, Pauls Valley	
Grady.....	Turner Bynum, Chickasha	Roy E. Emanuel, Chickasha	
Grant.....	I. V. Hardy, Medford	E. E. Lawson, Medford	
Greer.....	J. B. Lansden, Granite	J. B. Hollis, Mangum	1st Wednesday
Harmon.....	Samuel W. Hopkins, Hollis	Wm. M. Yeagan, Hollis	
Haskell.....	Wm. S. Carson, Keota	N. K. Williams, McCurtain	First Friday
Hughes.....	William L. Taylor, Holdenville	Imogene Mayfield, Holdenville	Last Monday
Jackson.....	Raymond H. Fox, Altus	Willard D. Holt, Altus	
Jefferson.....	D. B. Collins, Waurika	J. I. Hollingsworth, Waurika	
Kay.....	J. G. Ghormley, Blackwell	L. I. Wright, Blackwell	3rd Thursday
Kingfisher.....			
Kiowa.....	J. M. Bonham, Hobart	J. L. Adams, Hobart	
Le Flore.....	G. R. Booth, Le Flore	Rush L. Wright, Poteau	First Wednesday
Lincoln.....	J. W. Adams, Chandler	C. W. Robertson, Chandler	Last Tuesday evening
Logan.....	Wm. C. Miller, Guthrie	J. L. Leflew, Jr., Guthrie	
Marshall.....	John L. Holland, Madill	J. F. York, Madill	
Mayes.....	S. C. Rutherford, Locust Grove	E. H. Werling, Pryor	
McClain.....	B. W. Slover, Blanchard	R. L. Royster, Purcell	
McCurtain.....	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow	4th Tues, eve.
McIntosh.....	D. E. Little, Eufaula	W. A. Tolleson, Eufaula	2nd Tuesday
Murray.....	P. V. Annadown, Sulphur	O. D. Thomas, Sulphur	
Muskogee.....	A. N. Earnest, Muskogee	S. D. Neely, Muskogee	1st & 3rd Monday
Noble.....	J. W. Francis, Perry	C. H. Cook, Perry	
Okfuskee.....	J. M. Pemberton, Okemah	L. J. Spickard, Okemah	2nd Monday
Oklahoma.....	George H. Garrison, Okla. City	W. W. Rucks, Jr., Okla. City	4th Tuesday
Okmulgee.....	I. W. Bollinger, Henryetta	M. D. Carnell, Okmulgee	2nd Monday
Osage.....	T. A. Ragan, Fairfax	George Hemphill, Pawhuska	2nd Monday
Ottawa.....	J. W. Craig, Miami	L. P. Hetherington, Miami	Last Thursday
Pawnee.....	M. L. Saddoris, Cleveland	Robert L. Browning, Pawnee	
Payne.....	A. B. Smith, Stillwater	Haskell Smith, Stillwater	3rd Thursday
Pittsburg.....	W. H. Kaeiser, McAlester	Edw. D. Greenberger, McAlester	3rd Friday
Pontotoc.....	E. M. Gullatt, Ada	R. E. Cowling, Ada	1st Wednesday
Pottawatomie.....	R. M. Anderson, Shawnee	Clinton Gallaher, Shawnee	1st & 3rd Saturday
Pushmataha.....	E. S. Patterson, Antlers	D. W. Connally, Antlers	
Rogers.....	W. A. Howard, Chelsea	P. S. Anderson, Claremore	1st Monday
Seminole.....	Claude S. Chambers, Seminole	Mack I. Shanholtz, Wewoka	
Stephens.....	E. C. Lindley, Duncan	John K. Coker, Duncan	
Texas.....	L. G. Blackmer, Hooker	Johnny A. Blue, Guymon	Subject to call
Tillman.....	T. F. Surgeon, Frederick	O. G. Bacon, Frederick	
Tulsa.....	J. C. Brogden, Tulsa	Roy L. Smith, Tulsa	2nd & 4th Mon. Eve.
Wagoner.....	H. K. Riddle, Coweta	S. R. Bates, Wagoner	
Washington-Nowata.....	S. A. Lang, Nowata	J. V. Athev, Bartlesville	2nd Wednesday
Washita.....	A. S. Neal, Cordell	James F. McMurry, Sentinel	
Woods.....	C. A. Royer, Alva	O. E. Templin, Alva	Last Wednesday
Woodward.....	Joe L. Duer, Woodward	C. W. Tedrowe, Woodward	

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President's Address*

The privilege to lead this outstanding and important group of American physicians is indeed an honor. I deeply appreciate the confidence and trust you have placed in me in making me your president and shall always treasure the memory. Our acquaintance should ripen into helpful friendship and our discussions prove fruitful and stimulating. We realize that the interchange of ideas and thought is of untold value to us. A wonderful friendliness and good fellowship exists among our members.

The persistence of these annual gatherings emphasizes the inevitable conclusion that there must be something of value in the concept. Whatever of worth there may be in the spirit of personal fraternity which results from the coming together of large groups, the motivating power of organization represents a force which is of inestimable value to any such assembly. A successful convention in itself is a product of a vast amount of organization. The best of them are planned a year or several years in advance. A smooth working program of well-conducted features may seem to the average listener as merely the outgrowth of extemporaneous genius but unless there is a plan behind it, any session may find itself on the brink of chaos.

The rank and file individual in attendance may have similar reactions, but this meeting will have missed its mark if it has not impressed him deeply with the essential need of preserving and building up his profession and his organization.

Today the world around is engaged in a fateful struggle — a struggle with the forces of despotism and reaction. All the fruits of more than a century and a half of effort to

develop the democratic way of life are at this moment in deadly jeopardy. Once again the autocrats, the tyrants and the dictators seek to ride rough shod over the liberties and freedom of millions of people. They proclaim an ancient doctrine in modern terms—men are but means to ends, not ends in themselves; citizens are just slaves of the State, minions of dictators, pawns in a national power game. These proponents of totalitarianism arraign democracy as decadent, inefficient, muddle-headed and soft. They profane the ancient virtues, scorn our ethical and humanitarian traditions. Mindful of the perils without and the problems within our land, we reaffirm as a great country our faith in democracy, pledge ourselves anew to lift high its banner, if need be to man its ramparts, convinced that democracy is worth defending with our lives and our fortunes.

This occasion brings to mind with renewed forcefulness my heartfelt gratitude for my American citizenship. It is indeed a privilege to live in a nation of builders, where one finds its leaders, statesmen, professional and business men gathered to discuss means of increasing the happiness and prosperity of its individuals and enterprises rather than means of destroying those fundamentals of American life.

I pray that our interests as a nation will continue to center on construction, and that the destruction across the ocean from us may soon cease.

It is indeed a pleasure to participate in this meeting, to learn the plans, problems and programs of you who are contributing in such great measure to the progress and development of our United States.

The medical profession has done more for the race than has ever before been accomplished by any other body of men. These gifts to the people have come in the form of

*Read before the General Assembly, Oklahoma State Medical Association, May 20, 1941.

vaccination, sanitation, anesthesia, antiseptics in surgery, the science of bacteriology and the art of therapeutics.

Like a team of horses slowly pulling a heavy load out of the mire, the physician and the allied professions are side by side slowly but surely liberating the human race from the depths of disease. Their combined value cannot be measured in dollars and cents but rather in years of additional life. Together they constitute the greatest team on earth.

To our members and guests may we say that we trust you will find much to stimulate your interest and to improve your individual methods. We hope that by your contact with various minds and with newer methods you will return to give better care to your patients and thus, enlarge the scope of your practice, through enriched diagnostic and therapeutic methods.

Progress is not automatic. The world grows better because there are high-minded souls who wish that it should, and because they will and dare to take the right steps to make it better. This is what the American Medical Association has been doing for years and is continuing to do for the benefit of the medical profession and those whom it is our pleasure to serve.

The greatest advance ever made in medical science has been made during this century in making possible the prevention of many of our most dreaded diseases. Indeed, it may almost be thought that sanitation is a new science quite distinct from the science of medicine. But in reality there is no such separation, and the prevention of diseases will always be a special department of our profession.

There is no sense in the separation that exists today between the physicians in active practice and their brother in the laboratories. Theory and practice must always go hand in hand if either is to be of greatest use. The bacteriologist, if he gives not half his heart to the widest clinical application of his knowledge, will lose his highest inspiration. And the busy practitioner, who aspires to the highest fulfillment of his mission must now keep in touch with the searchers in the world of germs.

Under monarchical governments we might petition the king and his councillors for medical reforms. But in a republic, reforms originate not in professional petitions, but in popular demands. The people are willing to be persuaded, and must be persuaded before they undertake reforms. Direct responsibility, therefore, rests upon those who alone are able to lead such movements.

In the evolution of this country we have not yet attained the condition of a perfectly representative government. And it is only

in the higher development of this grand policy that our national hopes safely rest. Geographical sections may be represented, and voting districts may already be numerically equal, even political parties may be justly represented, but real representative government requires also that each class, profession and trade shall be represented. Such government, so far as our profession is concerned, can easily be obtained by concerted action. And one of the functions of the State Societies ought to be the nominating of our representative for public service in those departments where the help of our profession is needed. Such nominations would have the binding force that honor always imposes. And the physician's public service would be far easier if undertaken at the request of his professional brethren.

But it is not enough that we strive merely to secure the election of our professional representatives. It is even more important that we shall take a greater interest in public matters. Public measures that especially concern the medical profession should be discussed; and our opinions as physicians should be made known at the proper time, that is, in the formative stages of legislation when such opinions may be of some use.

If and when changes come that effect our profession, and the physical welfare of our people, our organization is the agency that must certainly direct these changes, this can be done if we are thoughtful, united and energetic.

The three great needs are; First, an individual recognition of our responsibilities for extra-professional public service; second, concerted effort to secure proper professional representation in the government, and third, a continued interest in the public service of our fellows for their encouragement and support.

Shall we prove ourselves worthy of our inheritance? In times of peace and prosperity shall we begrudge giving some small portion of our time to public service? Rather, as we return to our routine responsibilities, shall we not also willingly assume our extra-professional obligations?

I plead in behalf of anxious parents, who would give their all to insure the health of their children, but who do not know as you know, in what ways this might be done. I plead in behalf of the distressed, for whom the public would gladly do more if only the way were pointed out. And, finally, I plead in behalf of generations yet unborn, that this dear land of ours shall be more jealously preserved from contamination, in order that it may be the healthful home for succeeding generations.

Society needs more and more the benefi-



cent and uplifting influence of an expanded, scientific health service, motivated by altruism and sincere desire to improve mankind. Rene Descartes, the great French philosopher, said three centuries ago in words that are very applicable today: "If ever the human race is lifted to its highest practicable level intellectually, morally and physically, the science of medicine will perform that service."

Fortunately the possibilities of investigation and of discovery are not confined to a few great men. Every patient is more or less a problem. In the healing arts more than in any other vocation that I know, the rank and file are constantly stimulated by their experiences to suggest new ideas and almost every practitioner occasionally makes some new observation or develops some useful idea in practice.

It is our problem to insure to the people the medical attendance it deserves, at terms it can afford and in a way that a self-respecting citizen, not desiring, nor needing charity, can accept. This social evolution can be controlled. Without prejudice, with full consideration of all schemes or proposals, we can, by rendering efficient service to the public, by more nearly equalizing costs of medical care, and by promoting the general health of the public, keep this evolution from becoming a revolution, with worse conditions resulting.

How fortunate that the state cannot at this time afford to consummate state medicine. Some of our men who are short sighted or misled would sell their birthright for a mess of pottage. State medicine would become a political racket, tax-paid, and the public would have no choice of physicians or treatment.

In earlier times the chief activities of a medical society were scientific and social. Today a different situation exists. Now the whole world seems involved in a maze of doubt, uncertainty, and dissatisfaction. Economically, politically, socially and scientifically, we are in a state of unrest.

One of the major dangers facing medicine today is state control. Our own experience shows that Government has been remarkably penurious in providing medical care for those on the WPA rolls, or the blind, or dependent children, or the decrepit recipients of old age assistance who above all others require generous amounts of medical service.

In the face of this deplorable situation, it is most startling and incongruous to read the plans of the various handsome young men in Washington, who are endeavoring to make their name and fame by concentrating their efforts on putting over a great new nation-

al health program, including public health work, hospital building and health insurance. "Absurd," you say? Not at all. These modern glamor boys are deadly serious in their emulation of Bismarck and Lloyd George, and therefore the whole scheme is dangerous — perilous to the health of the people and to the thread of democracy in our land. The plan of socialized medicine known as Senator Wagner's National Health Program has not its roots in the democratic principles which have made this country great. The answer to the nation's health needs, does not lie in a Fascistic philosophy which like poison gas, spreads, injures and kills all and everything in its ever widening path.

Ambition should not be fed on the health of the people. Further, Government must assume its rightful responsibility for the care of those on the welfare rolls but there must be a line beyond which Government must not step without usurping personal responsibility.

Schemes for the better distribution of competent medical care have of late occupied prominence in the public eye. Most of these have been based upon revolutionary concepts; many have subsequently floundered on this shoal. The ideal plan for medical help for all the population has not yet been conceived. Perhaps one day experimentation of the intelligent sort, free from acrimony and divorced from politics, may point the way. To date, unbiased judgment must concede that the time tried methods of private individualized American medicine is far away the best system yet devised. It isn't just coincidence that a free, untrammelled American system of medicine, has during the short life of this republic, increased the life expectancy of its citizens from 32 years to 62 years.

The American Medical Association has never been unmindful of the necessity of constructive changes in the methods of organizing medical care or in the appropriate functions of the government in protecting the health of the people.

At its first meeting in 1847 it urged the establishment of "state medicine," a term which was used at that time to describe what later became known as public health. The organized medical profession has always used its influence for the establishment and proper administration of state and local health departments. It has been more than sixty years since the American Medical Association first advocated the establishment of a National Department of Health, with its head a member of the Cabinet. For many years the Association endeavored to secure the coordination of Federal Health activities through such a department, and the 1938

special session of the House of Delegates again recommended the establishment of a federal health department with a secretary who shall be a doctor of medicine and a member of the President's Cabinet.

A measure is at this time pending in our Congress to carry out this program, and every member of organized medicine should use his full influence to obtain passage of this measure.

The National Health Conference was called in Washington on July 18-20, 1938, to consider the national health program. This program, which was presented with little opportunity for thorough or dispassionate discussion or modification, was based largely on a survey conducted by the United States Public Health Service through the use of WPA clients. The accuracy of many of the basic conclusions of this survey is open to strong suspicion. Instead of presenting an unfounded opposition to schemes of compulsory sickness insurance the American Medical Association has given to such schemes more study, over a longer period, than the individuals or institutions that advocate such systems of insurance. This study, which has covered all existing systems throughout the world, has led to the conclusion that any scheme by which medical service is treated as a commodity that can be purchased wholesale by governmental or lay organizations and that is distributed at retail to patients, results in a superficial service that not only delays the conquest of disease but actually increases some forms of sickness and has not been shown to be as helpful as present methods now generally practiced in reducing mortality.

It is apparent that medical service is not a commodity that can be bartered by a third party without losing much of its efficiency and that for medical service to be most effective the transaction must be entirely between the patient and his doctor.

Those who talk so glibly of making over this profession of ours—this profession rich in traditions; this profession which has attained such noble worth; this profession surfeited by kindness and sympathy; this profession whose only passwords are mercy and pity—have lost sight of the art of medicine. They would, by a stroke of the pen, destroy this almost divine principle; they would reduce all these human attributes of kindness, pity and mercy, to a formula. They would put the matter on a business basis under the assumption that only scientific medicine need be applied to the sick in order to effect a cure. What an abysmal misunderstanding of the principles involved. What gross injustice and what cruel denial would result. The art of medicine and its application must re-

main unchanged. Nothing must make unheard those words so often expressed by the sick: "Doctor, I'm so glad you have come." There is wrapped up in that one sentence the epitome of the medical art which has existed through the centuries. It is akin to the child who reaches out his hands to the mother and finds solace and understanding in her arms.

The art of medicine has not changed. The passwords of mercy and pity, are the same today as in the days of Hippocrates and the doctors of the old school. These qualities of the human soul must not die if the art is to exist. Would you have me suppose that they can be reduced to a business formula? Would you have me think that they can be turned on and off by a switch? I call you to witness, that this can no more be done without debasing the quality than one can stifle the love in the human breast for its Creator without dwarfing the soul.

We have been called ungenerous, mercenary, illiberal and selfish. If to reach the principles of sanitation and hygiene; if to broadcast rules and programs of maintaining health; if to give freely the discoveries of science resulting in the eradication of suffering and disease; if refusal to patent new remedies or to keep them hidden and secret; if to apply knowledge of preventive medicine to the wiping out of specific diseases, if constantly to diminish our private practice and business by the dissemination of all this knowledge — if all this be ungenerous, then, thank God, I belong to such a selfish group!

It would take Divine wisdom to foresee the future, but it only requires common sense to keep constantly before ourselves, before the public and before our legislators, the necessity of maintaining unsullied whatever is noble and worthy of the medical art. The only guide we have for the future is experience. Experience is largely the record of our mistakes. Lord Byron said, "The best prophet of the future is the past." There is ample evidence in events of the past of the deterioration of medicine under political influence. There has been no material dissatisfaction of the public with the present type of medical service.

When the physicians in the United States become, if they ever should, mere robots of a huge national compulsory system of medical care, making diagnoses from card indexes and mechanical gadgets, and prescribing treatments from prepared and numbered labels, and when patients become a mere collection of interesting human parts to be shunted from one corner to another of a medical repair shop for some heartless and pseudo-scientific tinkering, America will have lost one of its greatest institutions —

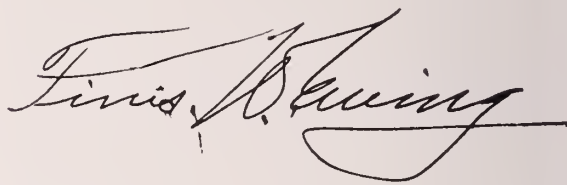
free and independent medicine — and the American people will have lost some of their most valuable human traits, namely, confidence in, respect for, and reliance on the scientific men and women who protect their health and prolong their lives.

It is up to the medical profession of this country, the organized medical profession as represented by the county and state medical societies and the American Medical Association, to conduct the necessary education of our people as to what is the right kind of medical care, as to the importance of good medical care for human happiness, as to the importance of medical costs, in the family budget in relationship to the costs for all of these other luxuries of life which have come to be for many of the American people necessities. If the American people are properly educated they will realize that medical care is so intimate a matter for the average man and for his family, so important a matter in relationship to their lives and to their happiness, that they will want to decide that matter for themselves in each instance and not have it decided for them by bureaucracies, by foundations, by social workers, or by any other system.

Recently, as you know, the American Medical Association by some fantastic reasoning has been found guilty by a court in the

District of Columbia of violating a Federal statute; however, the individual physicians who were indicted and tried along with the American Medical Association were exonerated. The mental gymnastics and legal contortions that were practiced to arrive at this verdict are to me almost beyond conception. I am advised that this case will be taken to the court of last resort so that we may finally be advised as to how we may be classed, whether as professional individual or a tradesman.

I have been happy to bring to you these remarks because in the history of the development of our profession, we recognize the general pattern of progress that has marked the growth of all branches of medicine and surgery; a pattern which yesterday molded our present miracles of healing and which today is laying plans for new improvements which will startle the world tomorrow and bring a multitude of humanitarian blessings to all mankind.



Some Mechanical Factors Involved in the Production of Hiatus Hernia of the Stomach*

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A great deal of interest has been manifested in small diaphragmatic hernias since Friedenwald and Feldman¹ published their paper describing this condition, in 1925.

The disorder consists of a herniation of a small portion of the stomach, in the region of the cardia, through the esophageal opening into the thorax. Its size ranges from that of a marble to a medium sized orange.

Von Bergmann,² in 1932, published a paper on the subject calling it "Hiatus Hernia." This name has become well established in differentiating this hernia from other diaphragmatic hernias.

Akerlund,³ in 1926, proposed the following

classification for this particular type of hernia, and his arrangement has been widely quoted since that time:

1. The short esophagus type: A congenital shortening of the esophagus in which the herniation of the stomach is permanently fixed above the diaphragm.
2. The para-esophageal type: In this group a portion of the fundus of the stomach passes into the chest alongside the esophagus, the distal end of which remains below the diaphragm.
3. The gastro-esophageal type: This form is produced by the cardia of the stomach being displaced upward into the thorax, pushing the lower end of the esophagus ahead of it.

*Read before the Section on General Medicine, Annual Session, Oklahoma State Medical Association, May 21, 1941, in Oklahoma City.

Most cases of this type of diaphragmatic hernia produce very few symptoms, however, a certain percentage will give a fairly uniform type of history, which fits into a well defined pattern. As a result, a rather characteristic symptom complex has evolved, the complaints manifesting themselves, in general according to the following outline:

Epigastric and substernal distress, often spoken of as "pressure," in varying degrees of severity. At times the distress shifts to the precordial region, may become painful and radiate to the left side of the neck, the left shoulder and down the left arm. As a rule the symptoms are

around the esophagus. Akerlund³ considers the condition so prevalent in older people as to be almost physiological.

Harrington,⁵ in a special monograph, states, "The diaphragmatic-esophageal membranes and the loose attachment of the peritoneum at the cardia, have considerable bearing on the occurrence of hiatus hernias. It is probable that the hiatus hernias of elderly people which are accompanied by insufficiency of the hiatus, are attributable to atrophy of their protective elastic membrane, particularly in cases in which there is an abnormally large hiatus."

In a series of 24 cases which we have col-



Figure I. X-ray before injury shows no evidence of hernia.

Figure II. X-ray after injury shows large hiatus hernia, which passes through the esophageal opening.

Figure III. X-ray shows hernia with relaxed cardia.

produced, or aggravated, by any increase in intra-abdominal pressure, such as leaning forward, lying down, straining, or wearing a tight abdominal garment.

Relief is usually gained by release of this pressure.

Many splendid papers have been published dealing with this phase of the subject. Among the contributors are: Friedenwald and Feldman,¹ Von Bergman,² Hurst,⁴ Harrington,⁵ Cunha,⁶ Levy and Duggan,⁷ Morrison,⁸ and Jenkinson and Roberts.⁹

The underlying cause of the herniation is generally conceded to be congenital. Hurst⁴ points out that abnormal laxness of the tissues surrounding the esophagus, as it passes through the diaphragmatic opening, creates an area of weakness which is susceptible to varying amounts of intra-abdominal pressure. Age, accompanied by atrophic changes, and lack of tissue tone are generally thought to play a leading role in this laxness of tissue

lected since 1934, nineteen give no definite history of any causative factor for the formation of the hernias. Most of them are in the age group between 50 and 70 years, and the laxity of the tissues surrounding the esophagus as it passes through the diaphragm, plus varying degrees of increased intra-abdominal pressure, probably account for most of these herniations. However, in the remaining five cases, evidence can be cited of definite mechanical factors involved in the production of the hiatus hernias.

Case 1. Figures 1 and 2.

R. G. F. White—Male—Age 30. This man was first seen January 15, 1935, and was complaining of burning of tongue, loss of appetite, loss of strength, "uneasiness" in abdomen, and constipation.

Chief findings at this time: Macrocytic anemia, R. B. C. 2,500,000, Hbg. 58 per cent. No free hydrochloric acid was found with the Ewald meal. Diverticulosis, involving the

descending colon, and arteriosclerosis. Decided improvement was noted on rest, liver, iron, dilute hydrochloric acid, and a soft, balanced diet.

On January 15, 1937, the patient slipped and fell on the icy steps of his back porch. He was unable to walk and complained of severe pain in the lumbo-dorsal region of the back, and extending forward into the epigastric region.

X-ray findings of the spine January 27, 1937, revealed a compression fracture involving the body of the first lumbar vertebra. The patient was in bed for eight weeks because of the fractured vertebra, and during this time he frequently complained of substernal fullness and pressure after eating. We gave very little attention to this complaint, feeling that it was due to the fractured vertebra. About eight months after the accident the patient came into the office complaining of burning, fullness, and pressure in the epigastric region, worse after meals, and especially noticeable on bending over to pick up some object, such as gathering eggs. Pain was frequently associated with the pressure and at times severe enough to cause patient to faint, the pain radiating to the precordial region. Difficulty in swallowing was usually present also when the distress was severe.

X-ray examination of the G. I. tract at this time shows: A large hiatus hernia measuring 9 cm. in diameter. The hernia is not fixed and passes freely through the esophageal opening. With the patient in the vertical position there is no evidence of herniation unless abdominal pressure is applied. In the prone position or in the Trendelenburg position, the hernia can be constantly seen, expanding and contracting with respiration.

In this instance we were fortunate in having x-ray films of the stomach before the accident occurred. Comparison of the films discloses no evidence of the hernia on the first film, while it is quite definite on the second film. The accident was severe enough to cause a compression fracture of the body of the first lumbar vertebra and therefore must have caused extensive damage to the soft tissue in this region. The age, plus the severe anemia, probably contributed to a marked loss of tone, involving the tissues in this case, and thus there was very little resistance to the stress and strain accompanying the injury.

Case 2.

G. W. T. White—Male—Age 85. In this case the chief complaints are dizziness, loss of appetite, and burning in stomach. The patient states that associated with the burning in the stomach is a feeling of substernal pressure, which causes him to cough. The

cough is not productive. The distress is worse after eating, is frequent at night, or when lying down during the day. At times there seems to be a lump in the "pit" of the stomach.

These symptoms developed, following an injury three years ago. At that time he fell into a greasing pit, landing with his stomach across a ladder. The injury was severe enough to cause him to lose consciousness for a short time, and when he awoke he was aware of severe epigastric distress and soreness, which lasted for several days. Since that time the above symptoms have been present in varying degrees.

The abdomen shows slight tenderness in the left lower quadrant, and in the epigastric region.

Ewald test meal shows free hydrochloric acid 27 per cent.

Roentgenological examination, May 2, 1938, Figure 3.

With patient in the recumbent position, a small portion of the stomach near the cardia passes through the esophageal opening into the thorax. The cardiac sphincter is pushed above the herniated portion of the stomach, and is relaxed.

Here again we have a severe injury in a man of advanced age. Apparently the hernia was produced at the time of the crushing injury as the characteristic symptoms of substernal pressure, that are increased at night, or when lying down during the day, have developed since the accident.

Case 3.

F. A. McM. White—Male—Age 66—Lawyer. Complaints of substernal and epigastric pain which is worse at night or when lying down. The pain frequently awakens him at night and causes loss of sleep. It starts as a tightness, or pressure, in the sub-xiphoid region, becomes painful, then radiates to the precordial region, and outward to the left shoulder. The attack is usually promptly relieved when the patient assumes the upright position—drinking milk or water, also helps.

The patient gives a history of sustaining a severe injury in an auto accident three years ago, being thrown with crushing force against the steering wheel. The chest and abdomen were chiefly involved. He was incapacitated and remained in the hospital for two weeks as a result of this injury. The above symptoms developed and have been increasing since the accident.

Roentgenological examination, March 25, 1938. Figure 4, shows: A hiatus hernia, about 3 cm. in diameter, which can be seen passing through the esophageal opening. The hernia is "phantom like," rapidly appearing, and disappearing, with respira-

tion. The hernia cannot be detected with the patient standing.

At re-examination on October 21, 1938, the hiatus hernia can be seen plainly with the patient in the Trendelenburg position. Inspiration increases the size, however, at this time, it is constantly present, not disappearing with expiration. With the patient on his abdomen and the head turned toward the left, the hernia disappears, then reappears when the head is turned toward the right. This finding may prove of value in the treatment. The hernia is larger than at the last examination, measuring 5 cm. at this time.



Figure IV. X-ray shows a hiatus hernia about 3 cm. in diameter, which passes through the esophageal opening.



Figure V. With patient in upright position, a diaphragmatic hernia can be seen.



Figure VI. This X-ray shows herniation of the fundus of the stomach through the esophageal opening.

The electrocardiogram report is normal.

Ewald test meal shows free hydrochloric acid 60 per cent.

The last x-ray examination, July 17, 1939, notes the hiatus hernia does not appear quite as large as at the previous examination.

The patient although younger is still in the proper age group for hiatus hernia development. The crushing injury, to the chest and abdomen, evidently was the chief factor in the formation of the condition. Evidence of continued increase in size of the hernia following the injury, can be seen by the second x-ray report, which was made seven months later. The symptoms also increased in severity during this time.

Following this second examination the patient refrained from large meals, and slept with his head and shoulders moderately elevated. He also avoided stooping, and unusual straining, or any motion that would cause undue increase in intra-abdominal pressure. The result was marked symptomatic im-

provement, with the fluoroscope revealing a decrease in the size of the hernia.

Case 4.

Mrs. J. F. H. White—Female—Age 41—Housewife. Presents herself with a history of difficulty in swallowing for the past year. She states that any attempt to swallow dry food seems to produce a spasm of the esophagus, causing a feeling of tightness at the lower end of the sternum and also a sensation of choking. Pressure frequently develops in the substernal region, at times shifting toward the precordium.

There is no pain or radiation to the shoulder. Occasionally the patient will vomit and

experience relief. Usually, it is necessary for her to walk around the room for a short time, in order to bring about substernal relaxation and subsequent ease.

Gastric analysis shows free hydrochloric acid 44 per cent.

The sequence of x-ray reports made on the different dates are as follows: February 11, 1936, with the patient standing, the esophagus and stomach appear normal. However, with the patient lying on the table, herniation of the stomach, through the esophageal opening, may be seen. The hernia being about 5 cm. in diameter. On May 24, 1938, Figure 5, there is an increase in the size of the diaphragmatic hernia since the previous examination, and it can be seen with the patient in the upright position. At this time the presence, in the abdomen, of a large, slightly dense, rounded mass, showing pressure against the inferior surface of the stomach and colon is seen.

This mass proved to be a large ovarian

cyst. Operation was advised and performed in the next few days.

After the operation the x-ray reports are as follows:

On June 28, 1938, the diaphragmatic hernia through the esophageal opening can be seen, with the patient in the Trendelenburg position only. During deep inspiration, a small diaphragmatic hernia can be outlined.

With the last fluoroscopic examination on September 12, 1939, the hiatus hernia again cannot be seen with the patient standing. In the horizontal position it is about the size of a cherry. In the Trendelenburg position, with deep inspiration, it develops into the size of a walnut. This is a definite improvement since the operation for removal of the ovarian cyst.

A developing diaphragmatic hernia, as a result of long continued progressively increasing intra-abdominal pressure, due to the growth of a large pelvic and abdominal tumor, can be graphically followed in this case history. Following the first examination, we lost contact with the patient for slightly over two years. During this interval, the hernia increased markedly in size and at this time could be seen constantly, with the patient standing. About one year after removal of the cyst, fluoroscopic examination revealed a great reduction in the size of the hernia, and there was no complaint of substernal pressure. Curiously, the symptoms, in this instance, were not so intense as in some with much smaller protrusions. Probably this fact can be explained by the slow development and resulting accommodation to the displacement and pressure caused by the hernia.

This is the only case in the series that the hernia could be demonstrated with the patient standing, without the application of abdominal pressure, and of course was due to the constant sub-diaphragmatic pressure.

Case 5.

D. E. F. White—Male—Age 57—Designing Engineer. The patient first noticed indefinite periodic substernal distress about five years ago. The symptoms were so slight at that time that he remembers very little about the details as to intensity and character, except that the distress usually occurred while he was standing at his work table preparing his draft designs. He gives a history of frequent swimming and diving over a period of many years. The past year, and especially the past two months, the substernal distress has taken on the nature of a severe "heart burn" and feeling of pressure, or at times, the sensation of a "lump." The intensity of the symptoms causes him to seek relief. This he obtains by walking across the room and getting a drink of water. Taking alkalies,

without walking across the room for a drink of water, results in very little relief. He times the attacks as occurring one to two hours after meals, and usually when working at his table.

X-ray findings, March 25, 1941, Figure 6, show herniation of the fundus of the stomach through the esophageal opening, about 5 cm. in diameter. The hernia cannot be seen with the patient standing unless pressure against the abdomen is used. However, when he is in the prone, or the Trendelenburg position, it can be easily demonstrated, with deep inspiration, then becoming smaller with expiration.

Stool examination negative for occult blood.

Gastric analysis shows 44 per cent free hydrochloric acid.

The history of swimming and diving, of many years duration, is important in this case. He states it is not unusual for him to land on the water with great force, when diving. The abdomen and chest bearing the brunt of the impact in such instances. In his work, as a designing engineer, he stands leaning over a work table, the edge of which presses against his abdomen almost constantly. As noted above the substernal distress develops at this time, and is relieved when he walks away from the table and takes a drink of water. The swimming and diving, with the accompanying stress and strain, and sudden increase of intra-abdominal pressure, in striking the water, especially when the technique of the dive is faulty, furnishes an area of decreased resistance in the region of the esophageal opening. In addition, increased intra-abdominal pressure was undoubtedly produced by his leaning over the table with its edge compressing the abdomen.

The mechanical factors were operating over a long period of time, therefore it is small wonder that a hiatus hernia developed as the age of relaxing tissue tone was reached.

SUMMARY AND COMMENT

All five of these cases show definite mechanical factors involving the production of hiatus hernias.

Three of them present histories of sustaining violent and crushing injuries. The symptoms in each case followed the injuries closely and continued to increase in severity for some time. All of them showed improvement when they followed instructions to avoid, as much as possible, the production of any increased intra-abdominal pressure. Apparently, in addition to any previous existing weakness, the muscular and other tissues, surrounding the esophagus, as it passes through the diaphragm, were stretched and loosened at the time of the accidents, thus

creating an area of lowered resistance at the hiatus which was, in turn, vulnerable to any form of increased sub-diaphragmatic pressure. An interesting point to be noted is the severity of the symptoms, presented by this injury group, in contrast to the mild symptoms more frequently encountered in any non-injury group. This probably is accounted for by the fact that the herniation was produced suddenly, and then, enlarged rapidly in size. With the result that very little opportunity was given for adjustment to the new pressure conditions.

Another finding which engages the attention is the fact that all of the injury cases were in men. This may be due to the probability that men are more prone to receive severe crushing injuries, than are women. As a consequence, this type of diaphragmatic hernia, resulting from sudden severe injuries is more likely to be found in men. While collectively hiatus hernias are more often found in women.

One case presented evidence showing the role that large pelvic, or abdominal, tumors play in gradually increasing the intra-abdominal pressure. Of course, some degree of weakness was likely already present in the peri-esophageal region, before the tumor developed. However, the increasing intra-abdominal pressure must have been the chief factor in this instance. One might ask why pregnancies do not produce diaphragmatic hernias more often. The answer may be that the pregnancies usually occur in a much

younger age group, in which the structures of the body are very resistant to trauma and its resultant forces. On the other hand, it is possible that they are more often present during pregnancy, than they are diagnosed.

The last case clearly reveals the different mechanical forces, working in perfect teamwork, each complementing the contribution of the other. However, even with these mechanical factors operating for years, the herniation was not produced, at least the symptoms did not appear, until the proper age grouping was reached.

These case histories have been recorded somewhat in detail, calling attention in each instance to some of the mechanical factors involved, in the production of esophageal hiatus hernias. It is my purpose, in so doing, to indicate the type of history that, under certain conditions, may act as a clue to the diagnosis of this not uncommon condition.

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Reducing Mortality of Cancer*

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About one hundred and fifty-three thousand and people in the United States die of cancer each year. This death rate is exceeded only by heart diseases. More is known about the etiology and treatment of cancer than ever before, but regardless of this, many people are dying from this dread disease.

Let us, if we may, look into some of the causes of this high death rate. Of course more cases of cancer are diagnosed and treated than formerly. Probably the medical profession is more on the outlook for cancer and more careful in diagnosis. Physicians are more careful in reporting deaths than formerly. This in a way may account for some of the seeming increase of cancer. But

why do we yet have such a high death rate? First, diagnosis is not made early enough, and, second, many cases are not adequately treated.

Early diagnosis and adequate treatment is the whole story. We have nothing new to tell you about this, and all we shall try to do will be to emphasize some of the things we already know, and have heard emphasized over and over again.

Why are so many cases not diagnosed earlier? First, the public is at fault and, second, the profession is at fault. Many people are too late in going to their doctor for advice about a skin lesion, a lump in the breast, an abnormal discharge from the uterus, or a digestive disturbance. They often think because the condition is causing but little, if

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any, trouble, it is not necessary to do anything about it. They think it will be early enough to see a physician when it begins to cause trouble. This is often too late for a cure. Some fear the physician will diagnose the trouble as cancer and want to operate or use x-ray or radium. There are many who dread to have surgery, x-ray or radium used, thinking that these agents might scatter the trouble. They hope the trouble may right itself. The people are not altogether to blame for this. They have been flooded with much literature and radio broadcasts by quacks, condemning the use of all these agents. There are many so-called cancer doctors who advise the people that they have a paste or solution that is a sure cure, as it takes the cancer out by the roots. We are often asked if x-ray and radium get the cancer roots. Arguing with some of these people is a waste of time and patience. It seems that many people do not have the confidence in the profession that they once had, since the government has taken a hand in trying to regulate the profession. I think we should try doubly hard to show the public that the medical profession has worked and always will work for the best interest of the public.

In what ways are the doctors at fault in the early diagnosis and treatment of cancer? We must admit the fact that some doctors are not as careful in their diagnosis and treatment or recommendation for treatment as they should be. For example, they may see a skin lesion, or a lesion in the mouth or on the lip. If the patient says it has not bothered him they may tell him to leave it alone, or what may be as bad, apply caustics. If a woman comes with a lump in the breast, she may be told to leave it alone, if it has not bothered her. If a woman has an abnormal discharge from the uterus, her physician may not even make an examination to determine the cause, but dismiss her with the advice to take a douche. If one is complaining of digestive disturbance, often the physician does not go into the history and examination thoroughly enough to make a diagnosis, but dismisses the patient with a prescription for kaomagma or some other concoction. I hope no one will think that these criticisms are being made just to be critical of the medical profession. I am offering these criticisms that the profession may be more careful in its examinations and advice. What we tell a patient who comes to us for advice may mean life or it may mean death. It is too serious to guess about. If we do not feel confident of our diagnosis we should seek help. It is no disgrace to ask for consultation.

It is a question of giving sound advice to all the public, and for every physician to

learn everything he can about cancer and precancerous conditions. It is a long road to travel and many will die while the program is being put over. The American Society for the Control of Cancer is doing a great work in giving information to the public as well as to the profession. But there are many who are not getting this information. If funds could be made available, this work should be greatly extended. The essential facts about cancer should be brought to every high school student, through lectures, the screen, and literature. In this way much valuable knowledge will be carried into every home. More attention should be given to this in our various clubs and organizations. More newspaper articles, even in weekly newspapers, should be carried. Quacks get their advertising into the papers, why not counteract this by reliable information from the medical profession?

Under "Current Comment" in The Journal of the American Medical Association for April 19, 1941, it is stated that almost one out of every ten deaths in the United States and Canada is due to cancer. It further says that many physicians do not follow their own advice, and have personal periodic examinations. The American Society for the Control of Cancer proposes such a program for physicians, whereby they may have a yearly checkup. As the comment further states, a powerful influence would be exerted on furthering the educational program of prevention of cancer by periodic examination.

Physicians should have access to courses of study in one or more centers in each state where they may study the diagnosis and treatment of cancer. If we could have a course in the diagnosis and treatment of cancer, such as we have had in obstetrics and pediatrics given to groups of physicians in all parts of the state, I am sure the physicians would appreciate such a course, and that it would be of great value to them and likewise to the public.

All physicians should have access to a good laboratory where they could have tissue examined, regardless of whether the patient can pay for such examination or not. So many people are not financially able to pay ten dollars for a biopsy.

After an early correct diagnosis has been made, then it is important to see that our patient has early and adequate treatment. Surgery, x-ray, and radium are our best agents. We can not have trained physicians and equipment in every county for the proper treatment of cancer. I think more young physicians should make a special study of cancer, as many are doing. We have institutes and hospitals where they may take intensive courses in the diagnosis and proper

treatment of cancer. Such physicians after proper preparation could locate in communities of one hundred to two hundred thousand people, and be of great service, even if they treat only minor conditions. Some of the major work could be referred to the larger centers, if necessary. I do not believe we will ever solve the cancer problem, till more of the rural population are reached, and I do not believe they will be reached till more physicians are trained for this work and are content to locate in rural sections.

I believe that any one with cancer, regardless of his financial circumstances, should have access to some doctor or to some institution where he may receive proper treatment. I trust that in the near future, patients may not have to wait for weeks or months for treatment, on account of lack of room. May we hope that while billions of dollars are being spent for armaments of destruction, some of it may be spent for saving the lives of those afflicted with cancer.

Acute Retrobulbar Neuritis*

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A chairman's address is often used to review recent advances in one branch of medicine; a presentation of original work or thought; an analysis of sociologic trends affecting medicine, or one in which he gives of his experience and warns of pitfalls as in Dr. Gradle's most admirable recent address before the Southern Medical Association entitled "Glaucoma Errors That I Have Made and That I Have Seen."

I do not feel qualified to address you along any of these lines, but shall discuss briefly an old subject in ophthalmology, namely, retrobulbar neuritis. The occurrence of four cases of acute retrobulbar neuritis in my practice in the past few months has awakened in me a desire to know more about the condition, and from my study a few thoughts have been crystalized.

My early concept of retrobulbar neuritis was the narrow limits imposed upon it by most textbooks, and by my teachers, i. e., a discrete inflammatory area in the optic nerve causing sudden blindness but with no obvious ophthalmoscopic changes in the nerve head in the early stages. For teaching purposes other classifications were worked out for those showing early changes in the nerve head or other characteristics. For practical purposes any inflammation of the optic

nerve, chiasm or tract is retrobulbar neuritis. Inflammation limited to only the fibers on the disc anterior to the lamina cribrosa is practically impossible. Plaques of inflammation occurring close to the globe show themselves to be so placed by venous congestion of the disc or marked swelling and papilloedema, the picture of optic neuritis. This variation from the one in which the nerve head does not change appearance depends on the location of the inflammatory area with relation to the entrance of the retinal vessels into the optic nerve, usually about 12 to 14 mm. behind the globe. Those in front of this point will cause obvious changes in the nerve head; those behind will usually result in a normal appearing fundus. Thus, the two conditions are in truth the same and the attempt to separate the two as entities is confusing, or so at least it has been to me. It does serve a useful purpose however to distinguish between the acute inflammations and the more chronic forms arising from toxic factors, such as tobacco-alcohol amblyopia, or nutritional factors, such as avitaminosis, diabetes or blood dyscrasias. These are slow in onset and take weeks or months to do the damage that is done in hours or days in the acute forms.

The cause of retrobulbar neuritis has been a matter of considerable conjecture. A partial list of conditions which have been given as the cause include focal infection, most

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particularly posterior ethmoid and sphenoid involvement, tonsillar infection, allergy, pregnancy and lactation, post influenzal toxemia and multiple sclerosis. Opinion has been most sharply divided between the two chief causes, multiple sclerosis and sinus disease. This division of opinion is usually quite dogmatic, many attributing all cases to multiple sclerosis and none to sinus disease or vice versa. To my mind, both such dogmatic adherents are probably wrong, for the condition no doubt has many more than one single etiologic factor. Foci of infection may cause it, but in my experience, removal of those foci have not influenced the final outcome or affected the final vision. Benedict discounts the effect of sinus disease in the etiology, and attributes the reported improvement after their operation as non-specific, such as the non-specific protein effect of the absorption of blood following the operation. All agree, however, that definite evidences of infection in sinuses, tonsils, etc. should be removed. As regards the possibility of a large proportion of these cases being manifestations of multiple sclerosis; the condition is not as common in this part of the country as in the east where multiple sclerosis makes up a fair share of the neurological cases in the clinics and hospitals. In St. John's Hospital in Tulsa, a general hospital admitting five to six thousand cases yearly, the diagnosis has been made four times in the past seven years. No doubt some cases have gone undiagnosed, but certainly it is uncommon. In this regard, let me interject the things to be looked for in history and physical examination to make one suspicious of a possible multiple sclerosis etiology. Careful questioning may bring out past periods of transient numbness or tingling in fingers, arms, or legs; or transient extra-ocular paralysis, not explained at the time of occurrence. One of the early and often unrecognized symptoms is sphincter control difficulties, especially the urinary bladder sphincter. Multiple sclerosis affects young adults and an admission of difficulty in starting the urinary stream in a young individual should not be overlooked. Several or all of the following physical findings may be present: absence of abdominal reflexes, positive Babinski reflexes, hyperactive deep reflexes, intention tremor, which may be very slight and difficult to detect, and of course later on, scanning speech, impaired gait, paraplegias and hemiplegias. The early signs must be looked for, and not the classical triad so often used in describing multiple sclerosis in textbooks, intention tremor, scanning speech and nystagmus.

Microscopic examination of the nerve during the acute stage is not possible, but the process is, no doubt, that of localized areas

of perivascular infiltration leading to transudation of plasma and lymphocytes into the spaces. The myelin sheaths are almost invariably swollen, and later may be lost. Duggan explains many eye conditions on what he calls a manifestation of acute localized tissue anoxia and of acute retrobulbar neuritis he says "... (it) is due to an acute vascular catastrophe in the optic nerve, characterized by arteriolar spasm and increased capillary dilatation and permeability leading to localized edema, tissue anoxia and loss of function in the involved tissue." On this basis he treats the condition by vasodilatation, about which we will speak briefly later.

The patient does not always come in as soon as the decreased vision is noted, many cases delaying a week or more during which they go to non-medical refractionists for changes of lenses or await the clearing of vision which they attribute to a "cold in the eye," or some other absurd cause. Pain in movement of the affected eyeball will bring in some earlier, though it is not a common symptom. The diagnosis, is, of course, made by finding central vision reduced, this reduction being caused by an absolute scotoma, almost always central but frequently in the early stages paracentral, later becoming central, or caecocentral. Ophthalmoscopic examination reveals a normal fundus in most cases or some disc edema as mentioned before, depending on the location of the lesion. The remainder of the examination in the diagnostic search is turned toward discovering the cause, about which we have spoken.

In the treatment as much difference of opinion and of ideas has arisen as in its etiology, as one would expect. Some textbooks would suggest that it being a self-limited process, treatment is of little importance, and also that most cases fully recover, with or without treatment. This was another false concept I had about the disease but my experience has been different. The final visual results, in my experience, have been poor. On the basis of the acute inflammatory process going on in the nerve, shock treatment is highly recommended by some, using foreign protein injection of typhoid or H antigen. Diathermy is often used. In the past few years thiamin chloride in large doses has been used very extensively but probably it does not have the place here that it does in the treatment of the toxic amblyopia of tobacco-alcohol. Removal of all foci we have mentioned, but let it be repeated again, promiscuous and widespread nasal and sinus surgery is looked on with

approval less and less of late. It has been suggested that surgery of foci be based solely on whether the foci itself is of sufficient severity to warrant its removal, rather than on its relation to the concurrent retrobulbar neuritis.

Referring again to the work of Duggan; on the basis of a tissue anoxia he recommends and uses vasodilators, notably sodium nitrate, to overcome this vasospasm and thus facilitate the access of oxygen-containing blood to the tissues, and so eliminate the tissue anoxia. This report on 29 eyes in which the treatment was used compared more than favorably in final visual results with 65 eyes reported treated by therapy other than vasodilators. Recent work by Puntenney at Northwestern consisted of photographs of retinal vessels before and after use of vasodilating and vasoconstricting drugs with an ingenious method of determination of changes in their size after these drugs. He was unable to see any actual dilatation of the retinal vessels after use of drugs classified as vasodilators, among them sodium nitrite. This would appear to cast doubt on the effectiveness of vasodilators, but, in speaking with him recently, I learned that he believes that vasodilators do have a place in the treatment of acute retrobulbar neuritis for the filling of the capillary bed is actually increased by their use.

CASE REPORTS

(1). Mrs. H., age 38. Loss of vision in right eye amounting to 20/400, duration one week. A large arcuate scotoma extending from the normal blind spot area also was made out. Swelling of the disc amounted to 1 diopter, veins over-filled. Physical examination was negative, and on x-ray evidence alone, exenteration of the right ethmoid cells and opening of the sphenoid was performed. There was no apparent effect on the condition, and in spite of protein injections, swelling persisted, central scotoma developed and after five weeks slow regression began, but complete secondary atrophy is now present with one small isolated field of vision remaining, but with exotropia evident.

(2). Mrs. W., age 37. Eighteen months ago an acute retrobulbar attack resolved after the usual treatment, cause undetermined, with vision reduced to 4/200 due to a large central scotoma of 35 degrees. In March, this year, she experienced a sudden loss of vision in the opposite eye, with a paracentral scotoma found on the first day of occurrence of symptoms. Hospitalization and thorough check-up with an internist revealed no new cause for the second episode. Nothing suggesting multiple sclerosis was found. On the

third day vision further decreased due to the scotoma now involving the entire central area. Vasodilatation was started and also in an attempt to keep the capillary bed over-filled and saturated with oxygen, five blood transfusions were given under direction of the internist, and inhalation of 100 per cent oxygen for four to six hours daily was used. After three weeks the centrally placed scotoma regressed somewhat with present vision 20/40, a paracentral scotoma still present.

(3). Miss F., age 23. Hazy vision for one week which had not responded to a change of lens. Small central scotoma, no changes in fundus. X-ray examination for sinuses revealed a previously diagnosed condition of hyperostosis frontalis interna on the opposite side to the affected eye, but otherwise negative. Patient overweight, with basal metabolic rate of -15 . Tonsils were found to be definitely septic and were removed. Complete physical check-up otherwise negative. Treatment consisted of thyroid medication, thiamin chloride, foreign protein injections. Central scotoma has remained almost constant in character, temporal pallor of disc set in at beginning of sixth year. Vision 20/400.

(4). Miss L., age 17. Pain on movement of left eyeball followed by hazy vision for one week. Large central scotoma, only slight overfilling of veins of retina, possibly some haziness of nasal margin of disc which did not change during entire period of observation. Mild influenza three weeks previously. Physical examination entirely negative; x-ray reported cloudiness of one antrum and ethmoid cells, but clinically they were not active and no surgery was performed. Patient hospitalized to control over-activity of social nature, injections of thiamin chloride 50 mg. daily, diathermy over affected orbit. Central vision cleared after three weeks, final vision 20/15 with small scotoma for color 15 degrees from fixation still present three months after onset.

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Varicose Veins of the Lower Extremities*

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The treatment and care of individuals with varicose veins and the accompanying complications has been a problem all through the history of medicine, and the treatment has been varied. The history of these varied forms of treatment makes an interesting subject in itself. Suffice to say, any physician who has been practicing only a few years has borne witness to the many recent innovations in treatment, and has witnessed the accompanying disappointment when patients have returned with a recurrence of their previous symptoms.

ETIOLOGICAL FACTORS

Varicose veins of the lower extremities are, of course, due to incompetence of the valves in the veins. This can be due to:

1. Stasis due to back pressure
 - A. Pregnancy
 - B. Pelvic tumor (A recent case of ours was due, we felt, to rather large femoral hernia.)
 - C. Back pressure due to sedentary occupations with or without constant recurring lifting. This includes the so-called occupational types as clerks, butchers, barbers, dentists, and many other occupations necessitating standing long hours with little walking. In all of these cases, the long continued back pressure seems to dilate the vessel to the point where the valves are no longer competent. This seems to be more prone to occur in the superficial veins of the leg as we feel the deep veins are more protected by the surrounding muscular support.
2. Varicosities due to direct damage to the valves
 - A. Thrombophlebitis¹
 - a. Adhesion of the valve to the wall following inflammation
 - Recanalization of the thrombus extending through the valves following thrombophlebitis
3. Heredity
4. Other causes: as,
 - A. Congenital cirroid aneurysm
 - B. Traumatic arteriovenous communication with accompanying increase in venous pressure

C. Injury to deep veins

THROMBOPHLEBITIS

This still continues as the etiological factor in the production of many varicosities and ulcers of the leg, but we know too little definitely about the cause of thrombophlebitis. Many factors are suspected. Among these, after a careful survey of the cases of thrombophlebitis that have occurred in the last few years in one of our large hospitals in Oklahoma City, we feel the following obviously may all be factors:

1. Stasis due to inactivity. This factor has been gone into rather carefully and thought to be a dominant one.³
2. Anemia
3. Blood dyscrasias
4. Trauma

We have blocked the sympathetic² nerve supply with novocain in sixteen cases of thrombophlebitis of the leg, and have been able to follow most of these cases. The earlier one can perform this procedure following the onset of the thrombophlebitis, the better are the results obtained. It seems to be of very little or no value other than the relief of pain if the condition has existed any great length of time. We mention this treatment of thrombophlebitis in this paper because anything that can lessen the damage to the valves in the veins will be of value in the prevention of the future development of varicose veins. After the patient is out of bed, the leg should be carefully supported and an edema never allowed to develop. In this manner we usually seem to be able to prevent the development of the familiar picture of elephantiasis that often results following a severe case of thrombophlebitis. We have one fairly recent case on hand at the present time who did not report for any medical attention until eight weeks following the onset of the thrombophlebitis. Having this patient and other similar cases in our office has furnished a constant stimulus in endeavoring to prevent the development of similar conditions in these cases.

There was a time when a history of thrombophlebitis previously having existed was a distinct contraindication to any subsequent ligation. At the present time it should certainly be a cause for very careful study before ligation is done, and we have set an

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arbitrary time limit of no ligation for at least twelve months following the subsidence of acute thrombophlebitis. Usually we wait longer. We have been very cautious about the use of sclerosing agents in this particular type of case.

We have gone into the etiological factors because with a conception of the causes more intelligent steps can be taken in the prophylaxis of varicose veins with their accompanying painful and disabling ulcers that are prone to occur.

PROPHYLAXIS DURING PREGNANCY

Any patient who develops varicosities during pregnancy we feel should have pressure bandages on the legs from the tip of the toes to just below the knee. An elastic stocking will serve this purpose, but it has been our experience that an elastic bandage properly applied (and the patient can be taught to apply these) is better than an elastic stocking. The elastic stocking is excellent if properly fitted when it is new, but tends to lose its elasticity with time. We do not feel that either injection or ligation is indicated in a pregnant patient. When the veins are so protected and are not allowed to remain dilated and damage the valves, one will be agreeably surprised at the condition of the leg after the pregnancy is terminated.

Before treatment is instituted in any leg, that individual should have:

1. A complete systematic history and examination
2. Before any veins in a leg are ligated, a careful study of the superficial and deep veins must be instituted as to existing varicosities, and the patency and competency of the communicating veins and their valves. We must prove that the deep veins are patent. The Trendelenburg test can be used along with Pertes test. Also, in the majority of the cases, palpation along with percussion will be of use in examining the superficial veins in the thigh. Numerous tests have been advocated and have their place depending upon the type of patient being examined and the choice of the examiner.

At one time a few years ago, there were many advocates of the so-called stripping operation; whereby, the long saphenous vein from well up into the thigh down into the calf was completely stripped out through multiple small incisions. One had only to see one severe infection following this type of operation to lose most of his enthusiasm for this type of treatment.

Then came the wave of enthusiasm for the injection treatment of varicosities without ligation. Thousands of injections were reported with wonderful results, but after approximately two years one began to see

rather high percentage of recurrences. It is now obvious that sclerosing the lower segments of a saphenous vein is not physiologically sound and compatible with a permanent cure in a high percentage of cases. The last few years, during which time we have been attempting to evaluate our results, we have arrived at the conclusion that when the long saphenous vein has varicosities throughout its length, the treatment of choice is high ligation along with ligation of the collateral circulation of the saphenous system of veins. In the majority of cases, a retrograde injection of a sclerosing agent is done at the time of ligation.

We seldom use more than 5 cc of a sclerosing agent in a leg at any one time. If a patient has had previous injection treatment, we endeavor to use a different solution at the time that we treat the patient as reactions occasionally are observed from the sclerosing agent. The only reaction that we personally have witnessed has been an occasional hyperpyrexia that we feel was due to the recurrent use of the same sclerosing agent.

When high ligation is done, often a supplementary ligation is necessary just distal to any communicating vein that has a non-competent valve or the varicosities will still exist below that point in the leg. We inform our cases that a recheck of the leg will be necessary from time to time for we know that any time a valve in a communicating vessel becomes incompetent we will soon have a recurrent varicosity.

VARICOSITY INVOLVING THE SHORT SAPHENOUS VEIN

Occasionally varicosities below the knee will involve the short saphenous vein. It is our impression that not over 2 to 4 per cent of the legs we have seen have sufficient varicosities of this vein to warrant treatment. As this vein empties into the popliteal vein, it is safer to inject varicosities here with preliminary ligation proximal to the point of injection.

During the past year, a section of the saphenous vein in each case operated has been sent to the laboratory for microscopic study. At the present time we are not prepared to make any definite conclusions. In almost every case, however, we have had a report of definite changes in the medial coat. Many of them have shown degenerative changes in the intima of the vessel. This, it must be remembered, is high in the involved vessel, just distal to the junction with the femoral vein. At this date, we are not prepared to state the meaning of these changes, but intend to continue with our studies in an effort to see if the changes have any significance.

CARE OF VARICOSE ULCERS: The ulcer from varicosities of the long saphenous vein,

of course, occurs on the medial aspect of the ankle usually just above the internal malleolus. At times, in severe cases, an accompanying reddish bronzing appearance of the skin exists in an encircling area about the ankle. There may even be other broken down areas or extensive ulcerations due to the long continued malnutrition of these parts. We feel that in addition to malnutrition due to stasis that the condition must be thought of as partially a deficiency. It has been reported that the administration of B1 was of value in this type of case.⁴ During the last year, we have seen a number of individuals with varicosities in one leg that made one think of subclinical pellagra. We have given some of these early cases nicotinic acid along with our other treatment, and the patients almost invariably reported not only improvement of the leg but improvement of their general skin texture and general well being. We mention the use of nicotinic acid at this time, and hope later on to give more definite reports as to its value. We have been using, of course, the nicotinic amide lately because fewer patients report reaction than from the nicotinic acid. We have had an occasional reaction occur with the amide.

Usually in the treatment of the infected varicose ulcer, a simple pressure elastic bandage worn over a sufficient length of time will temporarily heal the ulcer. In the usual case, it does not seem to make much difference what type of local medication is used so long as it is bland. In the past, we have tried almost everything from a simple

dry piece of gauze to numerous medications. In case the ulcer is intractable, activated zinc peroxide paste applied to the ulcer seems to be of more value than any other application we have used. We have recently found a 5 per cent sulfathiazole dressing to be valuable medication in selected cases. We use the adhesive elastic bandage of which there are several excellent products on the market. The bandage, of course, should be firmly applied from the tip of the toes to just below the knee, and should be applied with even tension.

CONCLUSIONS

1. We feel that varicose veins of the leg involving the long saphenous system are best treated in the usual case by high thorough ligation of the saphenous and collateral veins combined with retrograde injections of a sclerosing solution preferably in a small bulk.

2. We urge that more attention be given to the prophylaxis of this painful disabling condition.

3. We feel that a deficiency factor exists in many of these cases, and that nicotinic acid is only one of other deficiency factors.

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The Clinical Significance of Delayed Osseous Development*

BEN H. NICHOLSON, M. D.

OKLAHOMA CITY, OKLAHOMA

That part of the practice of pediatrics which is devoted to the management of disease entities that have a more or less definite beginning and a definite end is relatively easy. The indecision in our own minds tends to vanish when we have a name for it. We have something that we can get our teeth into and we can look it up and see what others' experience with that disease has been.

A rather large part of the pediatrician's work with older children is concerned with problems which have no names and which defy description. It is no simple task to determine which of the vague complaints are figments of the anxious mother's imagination and which are real. The determined woman who plants herself in your office to tell you about Junior's poor appetite, his craving for sweets, his abdominal pain, the cramps in his legs, his frequent colds, his eye-batting, the pain in his heart, his constipation, his coated tongue, his bad breath,

*Read before the Section on Obstetrics and Pediatrics, Annual Session, Oklahoma State Medical Association, May 20, 1941, in Oklahoma City.

his restlessness at night, his indifferent work at school, because his examination is without significant positive findings, gets for her pains some advice about his diet and habits and a bottle of capsules containing as many of the vitamins as are put up together in one pill.

It is unfortunate that this is so, but it is unavoidable, for the satisfactory examination of one such patient would require many hours and the mother has saved it all up for months and expects to get everything settled for the price of one office call.

Perhaps some day a short cut to such an evaluation will be available, but this seems unlikely.

There can, I think, be taken out of this group for definite classification the child whose development is retarded and who shows delayed maturation of the skeletal system according to the standards of Todd, set forth in his "Atlas of Skeletal Maturation." The following case resumes illustrate this type of child:

D. P., a ten year old boy, was seen in July, 1939, because he was doing very poor work in school. He was in the fourth grade and was hanging on with all the effort his parents could muster. He was awkward, handled himself poorly, and had difficulty playing with other children for that reason. He had frequent attacks of some sort of upset stomach, associated with a feeling of weakness. Persistent constipation necessitated frequent laxatives.

Except for his general build and several furuncles his examination was unenlightening. He had a short trunk with long legs and knock knees, and his joints were very loose. His height and weight were average for his age, but he had a spread of two and one-half years between his skeletal maturation and his chronologic age. One-half grain of thyroid daily made a different youngster out of him and when last heard from he was doing very well in school and had a much better attitude toward his surroundings.

H. C., a boy of 3 years and 9 months, was seen in July, 1939, because of slow development. He was slow sitting alone and did not walk until he was eighteen months old. He had been slow about everything and had just finished cutting his second molars when he came for examination.

He talked so poorly that only a few words could be understood.

On examination the boy's awkwardness was obvious. He handled himself about as well as one would expect the average eighteen months' old baby to. He ate with his right hand, threw a ball with his left, and kicked with his right foot. Apparently

neither side of his brain was as yet dominant. Examination of his left wrist and hand by X-ray showed a maturation age of approximately two years, which is a spread of a year and nine months.

He was started on one-fourth grain of thyroid daily without much benefit and the dose was gradually increased to one and one-half grains daily with very marked improvement and progressive development. He now lives in Tulsa and is under the care of Dr. Graham who has been very gratified with his progress.

G. D., a seven year old boy, was first seen in November, 1940, because he could not learn in school and because he was very awkward and his speech unintelligible. His height and weight were average. His skin was dry and coarse, and his eyes dull, and he was definitely not interested. His movements were spastic and his whole body seemed rigid. His maturation age was three years and nine months, which is a spread of about three and one-half years. Thyroid administration has resulted in considerable improvement but this boy has a long way to go. His mother, however, is very pleased with his progress to date.

L. W., a girl of seven years, was first seen in January, 1941, because of chronic constipation. She had since infancy been constipated and had regularly been given first one kind of laxative and then another. The child had been very cross, fretful and restless, and not very interested in anything.

She was of average weight and height for her age and a barium enema failed to show any suggestion of a megacolon. Her maturation age was only four years, which is a spread of three years, and she was put on small doses of thyroid daily. The mother was instructed about her habits and a month later she reported that the child was completely regulated and a much happier individual.

The last patient, a boy of six years, had been under observation since birth. Since about the age of two years he had been a cross for his parents to bear. He was not interested in what they had to say about anything. At the age of three someone had to get him down from the top of the windmill. At the least opportunity he had gotten into the lot with an ill-tempered bull. He had always been one of those kids who had to be watched lest he get seriously injured.

The situation was no better when he went to school. He wouldn't try to concentrate on anything and it was more or less hopeless to try to do anything with the other children when he was present.

Physically he had done beautifully all the time. His father married late in life and

didn't want to be bothered with the child, and his mother was constantly trying to keep the child from annoying or upsetting his father.

I considered the whole business a training problem and I advised them to seek child-guidance help that I didn't feel qualified to give. This, the father, who has been a little antagonistic all the time, refused to do. In desperation, I had an x-ray of his hand and found a spread of two years between his maturation and chronologic age.

On a quarter of a grain of thyroid a day the boy changed remarkably. He is no longer so fidgety and jumpy. He can sit down in a chair for a while and relax. He seems much more able to concentrate and is not constantly flitting from one thing to another. The difficulty was, and still is, largely one of behavior but the developmental factor is being taken care of and I think that as time goes on I can cope with the behavior aspect of it.

The children all represent hopeless situations in which the relationships at home and at school are becoming more and more strained, and less and less harmonious. The surprising thing to me is that these children's behavior is about what one would expect of a child whose chronologic age is equal to his maturation age. In other words, a child of seven who has matured to the age of four cannot be expected to act and think as a normal child of seven does. A case in point is one of my own children who talks and behaves as does his sister, who is two years younger, except that he is much lazier and much less interested in things around him.

He is quite a behavior problem but his skeletal age is correspondingly delayed and he has seemed more nearly normal taking small doses of thyroid. His mother and I are better able to cope with the behavior aspect of the situation.

My experience in the interpretation of the plates is limited and I have had to go through the laborious process of studying them bone by bone, with Todd's Atlas as a guide. While such a process is tedious, I be-

lieve that one who takes the time to study the Atlas can be fairly accurate.

It is obvious that a single assessment of a child's maturation level can only tell what he has done in the past and not what he is doing at the present. The clinical picture must determine the procedure to be followed and then re-assessment at intervals of six months will give a more concrete guide to his progress.

The rapid improvement in the child's behavior would seem to indicate that thyroid is needed for other reasons than its growth-promoting factors. The basal metabolic rate has not been a satisfactory procedure in small children. Only one of these children had definite clinical evidence of hypothyroidism and none of the ones whom I have followed has had a low body temperature. Cholesterol determinations have not been done. The amount of thyroid must be largely determined by the child's reaction to the drug. It is, I think, important to use the same preparation, for the potency of different preparations varies considerably.

With few exceptions all the patients whom I have placed in this category have been in the prepubescent period and have therefore shown no delay in the development of sexual characteristics. In general, thyroid is said to be dominant in growth promotion and the anterior lobe of the hypophysis in maturation. So far, I have hesitated to use pituitary preparations in these small children lest maturation be promoted too rapidly. Perhaps as I learn more, the indications for their use will be clearer to me.

I realize the complete worthlessness of a discussion of this character from a scientific point of view. It consists largely of my own impressions of patients, backed by my own inexperienced interpretations of their skeletal development, and my own interpretations of their progress colored more or less by the parents' impressions. I cannot draw any conclusions but I believe that in my own work I have succeeded in isolating this relatively hopeless group from those who are ordinarily sentenced to vitamin B complex.

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EDITORIALS

THE MEDICAL OFFICER "SOUNDS OFF"

Quoting from an article appearing in the Daily Oklahoman of Friday, May 9, 1941, under the date line of Del Monte, Cal.—

Lieut. Col. John H. Schaefer, M. C., United States Army, addressing the California State Medical Association says—"Too many young doctors holding Reserve Commissions are attempting to evade their duty by seeking exemptions from army service in the present emergency. The time has come to call a spade a spade. The number of such slackers is too numerous."

It is poor taste for an army officer to try to dictate to the medical profession its responsibility. Every doctor has his own problem to solve and should do what his conscience dictates to be the right thing and when he has made the decision, the calling of mean names will never improve the situation.

It is unfortunately true that we do not all see "eye to eye" in this present emergency. We must all conduct ourselves as professional men, even though the courts in Washington have said we are not, but it is hard to expect physicians to make 100 per cent sacrifice while the members of the other "trades" are holding up production and demanding more pay.

By army regulations a First Lieutenant who is married, has dependants and no source of income except from his profession, may resign his commission. Some physicians, after deliberate consideration, have decided to accept this regulation and if the regulation is a good one, he can hardly be criticized for so doing. Should such action brand a physician a slacker? If so, the regulation is bad.

If a doctor prefers to register under the Selective Service Act it is entirely his personal affair as he is doing the very thing the Government has planned for him to do and is not subject to any criticism or slanderous names from any Government Agency.

Let each doctor search his heart, decide as to his course of action, then act accordingly.

Now let Government Agencies try some better manner than nasty names to develop a cooperative spirit and unanimity of action from the Medical Profession.

Give and then give more to this program of preparedness, but let this be according to the dictates of your own conscience and your own patriotism, not because some Medical Officer of the United States Army proposes to classify you as a slacker.

PREPARE FOR WAR IN TIME OF PEACE

In the Lancet, January 4, 1941, under the title "A Wartime Pharmacopoeia" M. H. Pappworth discusses the needless and heedless prescribing of drugs which (1) normally come from parts of the world not now readily accessible to England. Examples — potassium salts, squills and liquorice. (2) Imported drugs which require valuable shipping space and could be omitted from prescriptions without serious therapeutic sacrifice. Examples — balsam of tolu, buchu, cubebs and senega. (3) Drugs needed for the manufacture of war weapons and lubricants, such as aluminum and magnesium salts, glycerin, liquid paraffin and castor oil.

The author says: "The list of substances covered by these three categories is enormous. But it is imperative that their use should be restricted and by helping in this way doctors will make a valuable contribution to our war effort. Now is the time for each hospital or hospital-group to compile a war-time pharmacopoeia which will pay due regard to these considerations. The following formulae and comments may prove useful to anybody engaged in this task. The main aims have been to avoid drugs within the three categories described above; to remember the cost of ingredients; and to combine simplicity with maximum therapeutic efficacy."

Many specimen prescriptions are cited for the purpose of recognizing specific needs, avoiding wasteful prescribing and substituting certain drugs for those useful in the exigencies of war or difficult to obtain.

It is indicated that this study engaged the cooperation of the laboratory directors of large chemical manufacturers. It would not be amiss for the American Medical Association, the large chemical and pharmaceutical manufacturers to anticipate our own needs and limitations in this field in case war continues to condition our way of life.

HOSPITAL BEDS IN OKLAHOMA

The Journal of the American Medical Association, March 15, 1941, is designated as the Hospital Number. Approximately 100 pages are devoted to a statistical study of hospital service in the United States. This study represents a great deal of work and serves a valuable purpose.

The figures on Oklahoma indicate that we have a grand total of 16,071 beds. Of these,

1,970 are federal; 10,120 are State; 141 are county; 138 are city; 20 are city-county; 927 are church related; 707 are non-profit associations; 1,436 individual and partnership; 612 corporations. Of the grand total, 12,389, or 77.08 per cent are tax supported. Eight thousand six-hundred thirty-four of the tax-supported beds are for nervous and mental diseases and 951 are for tuberculosis.

After allowing for certain differences usually accounted for through variations in the distribution of federal beds, it is astonishing how uniform is the middle west's distribution of various bed quotas in the states, with populations comparable to Oklahoma.

Those who may be disturbed by the large percentage of tax supported hospitals are reminded that one of the glories of the Arabic civilization, particularly from the 6th to 13th centuries, was the building and maintenance of hospitals under philanthropic foundations, bequests and royal edicts. Such institutions were to be found in Bagdad, Damascus, Antioch, Jerusalem, Mecca, Alexandria, Cairo and many other cities under Arabic control.

The following from Neuburger (1) serves as an example:

"We are best informed concerning the hospitals of Egypt. The first, founded and richly endowed by Ibn Tulun, was excellently equipped, while we have knowledge of others in Misr (founded 597), etc. The largest and best appointed was the Mansur

Hospital in Cairo, which was erected at the edict of the Al-Mansur Gilafun in 1283 at an enormous expense and which drew a large income from the landed property assigned to it. With the hospital were associated a mosque, an academy, a library and an orphanage."

Makrizi is quoted to show the spacious appointments for male and female and for every class of patient. The quotation closes with this statement: "The head-physician had an apartment to himself wherein he delivered medical lectures. The number of patients was unlimited, every sick or poor person who came found admittance, nor was the duration of his stay restricted, and even those who were sick at home were supplied with every necessity."

Neuburger adds: "In later times this hospital was much extended and improved. The nursing was admirable and no stint was made of drugs and appliances; each patient was provided with means upon leaving so that he should not require immediately to undertake heavy work. The Arabs in Bagdad, Cairo and Damascus had special eye hospitals and lunatic asylums. As regards the latter great credit is due to the Arabs in that the lunatics received careful and kindly attention in the asylums, not, as was so long the case in the West, being treated as criminals."—L.J.M.

(1) History of Medicine. Max Neuburger, Vol. 1, Oxford Medical Publications, 1910. Pages 377-378.



RIGHT: Hess Infant incubator. ABOVE: Hess incubator with Hess infant oxygen therapy unit in position for oxygen administration.

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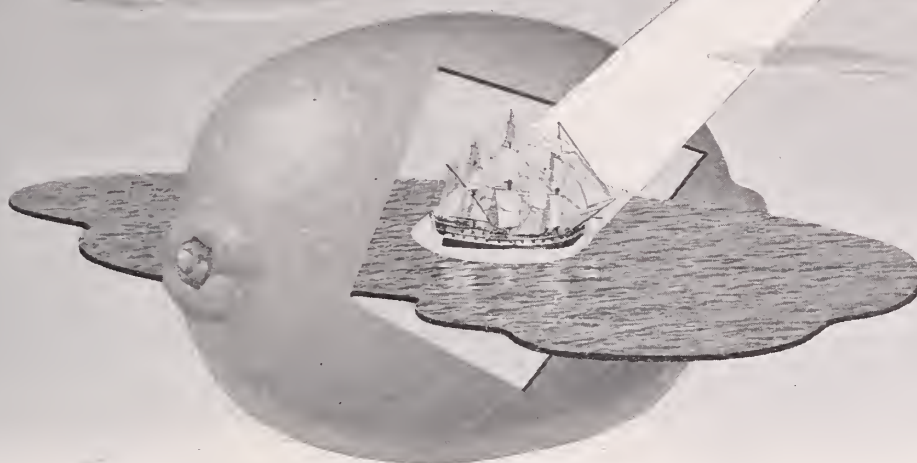
N. W. Cozart, Eastern Okla. Representative

Fred Cozart, Western Okla. Representative

Bob Loy, Oklahoma City Representative

E. A. Johnston, Elk City, Okla., S. W. Okla. and West Texas Representative

The Victory Over Scurvy



SCURVY first attracted attention when men began to make long sea voyages. The 16th century explorer, Jacques Cartier, described it and told how it was cured by having his men drink an infusion of the leaves and bark of the Ameda tree. Nevertheless it remained a serious problem in the British Navy until the middle of the 18th century when James Lind wrote his *Treatise on Scurvy*. Through Lind's observations and influence it was virtually eliminated as a plague among British sailors by providing them with lemons or other citrus fruit.

A forward step was made in 1907 by Holst and Frölich who found that the guinea pig could be used experimentally for the study of scurvy. It was not until 1932, however, that the isolation of hexuronic (ascorbic) acid was announced

almost simultaneously by Waugh and King in the United States and by Svirbely and Szent-Györgyi in Hungary. First obtained from the adrenal cortex of animals and from cabbage leaves, it has since been found widely in plant and animal tissues.

The story of the conquest of scurvy presents a dramatic page in medical history, yet it may be but a prelude to a still more fascinating and significant drama. The isolation of ascorbic acid opens the door a little further for investigators studying the physiology and metabolism of the living cell.

Ascorbic Acid (Upjohn) is available from prescription pharmacists in the following dosages: scored compressed tablets of 15, 25, 50, and 100 mg., in bottles of 40, 100, 500, and 1000.



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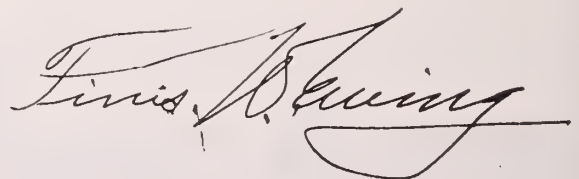
• *THE PRESIDENT'S PAGE* •

In reviewing American Medicine, we must be impressed by the progress made during the present century. The accomplishments are so outstanding that it would seem incredible to those who are so familiar with the advancement made, that all who have benefitted so greatly as a result of this progress would not acknowledge the great benefits to humanity, and that they almost as a unit would not lend every possible aid towards a continuation of this program. There can no longer be made the charge that American Medicine is narrow, or slow to accept improvements in practice, for there is no science or art that has seen the beneficial changes and improved developments, in this or any other age, that American Medicine has made.

We not only have forged far ahead of any other civilized country, but have kept up with our own national progress and have been the pacemaker for the betterment of the American way of life. American Medicine has demonstrated that it is fully competent to meet successfully every emergency and has made America the healthiest of all nations. Upon this premise, we have permitted ourselves to be lulled into thinking that nothing could happen to American Medicine.

Now we find that there are those who, from misinformation or promoted by selfish motives, would abruptly make violent and destructive changes. These individuals, "some within our own ranks" who apparently have as their model those principles which have caused the deterioration of medicine in Europe, have either placed a most peculiar interpretation on their history, have a poor regard for their fellow man, or are wholly selfish.

The time is here for our profession to conduct a militant crusade, to preserve the accomplishments already made, and to secure at all hazards a continuation of the ideals of American Medicine.

A handwritten signature in cursive script, reading "Loris Blum". The signature is fluid and elegant, with a long horizontal flourish extending from the end.

President.



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ASSOCIATION ACTIVITIES

Bill for Annual Registration of Physicians Passes

On May 10, the Eighteenth Session of the Oklahoma Legislature enacted into law House Bill 560.

This measure, commonly known as the Annual Registration Act, requires that all physicians and surgeons register their licenses with the Secretary-Treasurer of the State Board of Medical Examiners on or before June 10 of this year, and annually thereafter on or before the same date.

The enactment of this legislation has long been of vital need to ascertain properly the names and addresses of all physicians and surgeons who are at the present date legally entitled to practice medicine and surgery in Oklahoma.

Since there has not been a re-registration of licenses for the practice of medicine and surgery since 1908, it has been impossible for the Board of Examiners to record properly deaths and removals from the state, and to ascertain proper identification of present holders of licenses. Thousands of names of physicians and surgeons, some written in illegible longhand and many without the full name, are at present carried on the records of the Board.

Should the national emergency have caused the military forces to request of the Board the names and locations of all doctors within the state under the present existing circumstances, it would have been impossible to fulfill the request.

In addition to these conditions existing in the practice of medicine in Oklahoma, the Medical Board is constantly being requested by both the members of the profession and the laity to take steps toward alleviating in certain communities alleged violations of the Medical Practice Act. The Board has always been in sympathy with these requests, but until the passage of this bill, was restrained from cooperating because of the lack of funds for such proceedings.

The law as enacted does not require any re-examination, and all physicians and surgeons who are in possession of a bona fide, legal license to practice in Oklahoma will be issued a renewal certificate.

Before the passage of this Act, the laws of Oklahoma provided for annual renewal registration for all of the sixteen statutory professions, except the professions of accountancy, medicine and surgery. These professions and their annual renewal fees are as follows:

Architects	\$10.00
Attorneys	5.00
Barbers	3.00
Chirodody	5.00
Chiropractic	2.00
Cosmetology	1.00 to 25.00
Dentistry	2.00 to 5.00
Pharmacy	3.00
Embalming	3.00
Engineering	5.00
Optometry	5.00
Osteopathy	2.00
Nurses	1.00
Veterinarians	3.00

Since the enactment of this legislation is of vital importance to members of the medical profession, every physician and surgeon should study carefully the contents of the bill which is hereby printed in toto :

House Bill No. 560—By Whiteneck and Weaver of the House, and Ritzhaupt of the Senate.

An Act relating to the practice of medicine and surgery in Oklahoma and to the powers and duties of the Board of Medical Examiners; requiring physicians and surgeons to secure annual renewal certificates of registration and fixing fees therefor; fixing penalties; providing manner and purposes of expenditure of the depository fund of said Board; and declaring an emergency.

Be it enacted by the people of the State of Oklahoma:

SECTION 1. Each person holding a license or certificate issued by the Board of Medical Examiners of the State of Oklahoma authorizing him to practice medicine and surgery in Oklahoma, who desires to continue to so practice after the expiration of the fiscal year ending June 30, 1941, shall, on or before June 10, 1941, and annually on or before June 10 of each year thereafter, apply to the Secretary-Treasurer of said Board, on forms furnished thereby, for a Renewal Certificate of Registration entitling him to practice medicine and surgery in Oklahoma during the next ensuing fiscal year. Each such application shall be accompanied by a Three Dollar (\$3.00) renewal fee. Upon receipt of such an application and fee it shall be the duty of the Secretary-Treasurer, on or before June 25 of the year the application and fee are so received, to issue to the applicant a Renewal Certificate of Registration for the next ensuing fiscal year, which certificate will entitle the person to whom it is issued to practice medicine and surgery in Oklahoma during said fiscal year. Provided; that no such Certificate of Registration shall be required of a person for the fiscal year in which he received, either on examination or by reciprocity, his original license or certificate to practice medicine and surgery in Oklahoma.

SECTION 2. Any person practicing medicine and surgery in Oklahoma as defined by Section 4635, Oklahoma Statutes 1931, without having the legal possession of a current Renewal Certificate of Registration, shall be guilty of a misdemeanor and upon conviction be punished by a fine of not less than Twenty-five Dollars (\$25.00) nor more than Two Hundred Dollars (\$200.00), and such practice shall constitute grounds for the revocation or suspension of his license or certificate to practice medicine and surgery in this State.

SECTION 3. All renewal fees paid to the Secretary-Treasurer of the Board of Medical Examiners under the provisions of this Act shall be deposited by him with the State Treasurer, who shall place the same in the regular depository fund of the Board. Said fund, less the ten per cent (10%) gross fees paid into the General Fund of the State under the provisions of Chapter 88, Oklahoma Session Laws 1933, shall be expended in the manner and for the purposes now provided by law, and in paying a salary of not to exceed Fifty Dollars (\$50.00) per month to the Secretary-Treasurer for performing the duties enjoined on him by this Act, in purchasing necessary blanks, records and equipment, in securing necessary clerical and stenographic assistance, and in employing an attorney to investigate alleged violations of the Medical Practice Act of Oklahoma and to assist authorized State and county officers in prosecuting or restraining violations of said Act. Provided that said expenditures shall not be a charge against the State, but that same shall be paid solely from the Board's said depository fund.

SECTION 4. It being immediately necessary for the preservation of the public peace, health and safety, an emergency is hereby declared to exist, by reason whereof



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this Act shall take effect and be in full force from and after its passage and approval.

In explanation of the important points of the bill, your attention is directed to the provisions of the bill in the following respect:

Section 1.

Section 1 provides that every person holding a license or certificate issued by the Board of Medical Examiners of the State of Oklahoma authorizing him to practice medicine and surgery and who desires to continue to practice after June 30, 1941, MUST APPLY to the Secretary-Treasurer of the Board, (J. D. Osborn, M.D., Frederick), for the proper forms for securing the renewal certificate on or before JUNE 10, 1941. Each application upon being sent to the Board must be accompanied by a renewal fee of \$3.00.

Upon the receipt of the application and fee, the Secretary-Treasurer must issue a renewal certificate to the applicant on or before June 25.

Section 1 further provides that it shall not be necessary for a person, who has received either by examination or reciprocity, his first and original license, to secure a renewal certificate for that particular fiscal year in which the license was issued.

Section 2.

SECTION 2 PROVIDES THAT ANY PERSON WHO PRACTICES MEDICINE AND SURGERY IN OKLAHOMA AFTER JUNE 30, 1941, WITHOUT HAVING COMPLIED WITH THE CONTENTS OF THE ACT SHALL BE GUILTY OF A MISDEMEANOR, AND SUCH FAILURE SHALL CONSTITUTE GROUNDS FOR THE REVOCATION OR SUSPENSION OF HIS LICENSE.

Section 3.

Section 3 provides for the depositing of the fees collected and the expenditure of the same.

In addition to the expenditure of the fees for the routine operation of the law, said moneys may also be expended for the purpose of employing an attorney to investigate alleged violations of the Medical Practice Act and to assist authorized state and county officers in prosecuting or restraining violations of the same.

Section 4.

Section 4 constitutes the emergency clause.

All members of the profession are cautioned to observe that the law places the responsibility for the securing of the annual renewal certificate upon the applicant, and that the renewal certificate must be secured on or before JUNE 10, 1941, should they desire to continue their present license in force after the expiration of the fiscal year ending JUNE 30, 1941.

All members of the Association are likewise advised that the provisions of this law are in no way connected with the Oklahoma State Medical Association and that all correspondence and requests for proper forms must be made to J. D. Osborn, M. D., Secretary-Treasurer of the State Board of Medical Examiners, Frederick, Oklahoma.

Samples For Britain Discouraged

The following release has been received at the office of the Association:

Dear Doctor:

We have been asked by a number of advertisers to help discourage a movement to collect physicians' samples for British Relief.

By publishing the following news item you can ingratiate your Journal with these advertisers.

Very truly yours,

Cooperative Medical Advertising Bureau
American Medical Association

As much as we individually might be in sympathy with the "Bundles for Britain" movement, one recent phase of it hardly has our approval.

At several points in the country there has been a movement to collect the samples left by pharmaceutical detail men in physicians' offices and include them in the

shipments for British Relief. This is an expensive and uncontrolled way of supplying pharmaceutical products.

Most all of the pharmaceutical manufacturers have individually donated supplies with vitamin capsules and other needed pharmaceutical products to the British Relief at no charge.

The packaging of a sample increases the cost and if these samples are collected and sent to Britain, then the purpose for which they were intended, that is, for the use of physicians, is not accomplished, and the heterogeneous material that reaches British Relief probably would have little value. Many samples left physicians would be dangerous if used indiscriminately without the advice of a physician.

In some cases individual City and County Medical Societies have been asked to cooperate with the collection of these samples. It is our opinion that such cooperation should be refused for the obvious reasons stated.

Lederle to Open State Depot

Lederle Laboratories, Inc., New York City, announce the opening, June 1, in Oklahoma City of a full-time, completely stocked depot of biological, pharmaceutical and allergenic preparations.

The first of its kind to be established in Oklahoma, the depot will be located at 1114 North Walker. Its aim will be to increase Lederle service to every drug store by giving rapid distribution to all points in the state.

A. F. Buckley will manage the depot, with Miss Edna Colbath as trained secretary, and Paul Snelson and Louis Ebeling as traveling representatives.

Specialists' Directory Asks for Biographies

Specialists eligible for listing in the forthcoming second edition of the Directory of Medical Specialists are urged to fill in and return promptly the questionnaires for biographic data now being mailed out by the publication office.

This Directory is the official publication of the Advisory Board for Medical Specialties, issued every two years, and listings are limited to those formally certified by and of the fifteen American Boards examining in the medical specialties. There is no charge for such listings.

The second edition is now being prepared, and will be ready for distribution early in February 1942, with biographic, geographic, and alphabetic listings of all diplomates certified to January 1, 1942. It will include approximately 18,000 names.

The Directing Editor is Paul Titus, M. D., 1015 Highland Building, Pittsburgh, Pennsylvania, and the secretaries of the fifteen American Boards constitute the Editorial Board.

Secretions Study Group Elects Dr. Turner To New Office

Dr. Henry H. Turner, retiring president of the Association, assumed office in another medical association this month, when he was elected secretary-treasurer of the Association for the Study of Internal Secretions at a meeting May 2 and 3 in Atlantic City, N. J.

Doctor Turner is a past vice-president of the group, and has served as a member of its Council for several years.

The Association is an international organization made up of about 800 physicians interested in that particular field of medicine.

Opportunity for Practice

Anyone interested in an opportunity to engage in practice in a town of about 500 people with good surrounding oil territory, communicate with Mr. H. R. Higdon of Avant, Okla.

KARO ADVANTAGES IN INFANT FEEDING

1. *Minimum Fermentation*—"The dextrin is not irritating to mucous membranes, easily digested without undue fermentation in the intestinal tract, converted into maltose and finally into dextrose before absorption. The amounts of maltose and dextrose, present or formed, and of cane sugar are rarely sufficient to produce irritation or fermentation."

Kugelmass: "Newer Nutrition in Pediatric Practice."
J. B. Lippincott Co., Philadelphia, 1940, p. 334.

2. *Maximum Assimilation*—Metabolic studies of experimental animals may have valuable implications for infant nutrition. For example, "The relative assimilation values of mixed sugars per 100 gms. of body weight are as follows: Dextrin and maltose 1.32; dextrin and dextrose 1.32; sucrose 0.76; fructose 0.50; lactose 0.16 and galactose 0.10."

Ariyama & Takahasi, Biochemische, Zeitschrift, vol. 216, p. 269, 1929.

3. *Ready Utilization*—"Karo syrup may be fed in large amounts without danger and is, at the same time, readily utilized. In our experience, it has been the most satisfactory form of carbohydrate for the feeding of normal and most sick infants."

Marriott: "Infant Nutrition."
C. V. Mosby Co., St. Louis, 1930, p. 45.



THE CHEMICAL COMPOSITION OF KARO IN GLASS AND IN TINS IS IDENTICAL

Dextrins.....	37%	1 oz. volume....	40 grams
Maltose.....	18%		120 cal.
Dextrose.....	12%	1 oz. wt.....	28 grams
Sucrose.....	4%		90 cal.
Invert Sugar.....	3%	1 teaspoon.....	20 cal.
Minerals.....	0.6%	1 tablespoon....	60 cal.
Moisture.....	25%		

(Karo—Blue Label)

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Thirty-Seven State Doctors Called to Military Service

Thirty-seven more doctors of Oklahoma have answered the nation's call to military duties while the orders of eight more who received notice to enter training earlier in the year have been revoked. These names were taken from the Journal of the American Medical Association.

Adams, Richard Martiu, 1st Lieut., Tulsa, Camp Wallace, Texas.

Akins, Jack Odie, 1st Lieut., Tulsa, Fort Sam Houston, Texas.

Atkins, Paul N., Jr., 1st Lieut., Muskogee, 52nd Signal Battalion, Fort Sam Houston, Texas.

Bergener, Karl L., 1st Lieut., Tulsa, 25th Infantry, Fort Huachuca, Arizona.

Bolton, Vernon L., 1st Lieut., Oklahoma City, Station Hospital, Fort Sam Houston, Texas.

Box, Otho, N., Jr., 1st Lieut., Grandfield, 36th Division, Camp Bowie, Texas.

Bungardt, Alfred Hiller, Jr., 1st Lieut., Oklahoma City, Station Hospital, Camp Barkeley, Texas.

Carson, John M., 1st Lieut., Shawnee, 36th Division, Camp Bowie, Texas.

Cox, Arlo K., 1st Lieut., Watonga, 36th Division, Camp Bowie, Texas.

Crane, Francis S., 1st Lieut., Wilburton, 1st Cavalry, Fort Bliss, Texas.

Curry, John Russell, 1st Lieut., Blackwell, Camp Barkeley, Texas.

Donovau, Mark Hamiltou, 1st Lieut., Oklahoma City, Station Hospital, Fort Sill.

Downing, Gerald G., 1st Lieut., Lawton, Station Hospital, Fort Sill.

Duewell, Rudolph Henry, 1st Lieut., Durant, Station Hospital, Fort Sill.

Etter, Forrest Stayton, Major, Bartlesville, Station Hospital, Fort Sill.

Evans, Alfred, 1st Lieut., Perry, Camp Barkeley, Texas.

Hyde, Wm. A., 1st Lieut., Durant, Station Hospital, Camp Barkeley, Texas.

Johnston, Leonidas A., 1st Lieut., Holdenville, Station Hospital, Fort Sam Houston, Texas.

Kennedy, Louis James, 1st Lieut., Clinton, Station Hospital, Fort Sill, Okla.

Kupka, John F., 1st Lieut., Haskell, Camp Barkeley, Texas.

Lindsey, Ray Harvey, 1st Lieut., Pauls Valley, Camp Wallace, Texas.

McClure, Harold M., 1st Lieut., Chickasha, Station Hospital, Fort Sill.

McCurdy, William C., 1st Lieut., Purcell, 2nd Medical Battalion, Fort Sam Houston, Texas.

Melvin, James H., Jr., 1st Lieut., Oklahoma City, 14th Medical Regiment, Camp Bowie, Texas.

Newlin, William H., 1st Lieut., Sallisaw, Camp Barkeley, Texas.

Oxman, Bertram Sidney, 1st Lieut., Wetumpka, Fort Bliss, Texas.

Perry, Fred T., 1st Lieut., Healdton, Camp Barkeley, Texas.

Phelps, Malcolm E., 1st Lieut., El Reno, Camp Barkeley, Texas.

Smith, Donald Hector, 1st Lieut., Fairview, Station Hospital, Fort Bliss, Texas.

Strecker, William E., 1st Lieut., Oklahoma City, Station Hospital, Fort Sill.

Stough, Austin R., 1st Lieut., McAlester, Station Hospital, Fort Sill.

Terry, John Banner, 1st Lieut., Wewoka, Kelly Field, Texas.

Traverse, Clifford A., 1st Lieut., Alva, 213th General Hospital, Camp Bowie, Texas.

Walker, John Hicks, 1st Lieut., Muskogee, Station Hospital, Fort Sill.

Waters, Floyd Leo, 1st Lieut., Hugo, Camp Barkeley, Texas.

Wolfe, Reed, Captain, Oklahoma City, 36th Infantry, Fort Huachuca, Arizona.

Zampetti, H. A., 1st Lieut., Lawton, Fort Logan, Colo.

Orders Revoked

Baze, Roy Ellis, Chickasha.

Cowart, O. H., Bristow.

Gallagher, Paul C., Shawnee.

King, Everett G., Duncan.

Newman, M. H., Shattuck.

Rucker, Ralph Weller, Bartlesville.

Sanger, Paul Griffith, Vinita.

Waters, Floyd Leo, Hugo.

President Announces Appointment Of Committees for 1941-'42

Announcement of the committees he has appointed to serve during his administration has been made by Finis W. Ewing, M.D., president of the Association, Muskogee.

Dr. Ewing's selections for the special committees are as follows:

Conservation of Vision—Dr. Charles Harralson, Tulsa; Dr. E. H. Coachman, Muskogee, and Dr. F. Maxey Cooper, Oklahoma City.

Conservation of Hearing—Dr. H. F. Vandever, Enid; Dr. Hugh Evans, Tulsa, and Dr. T. R. Lutner, Lawton.

Crippled Children—Dr. C. R. Rountree, Oklahoma City, Dr. Ian McKinzie, Tulsa, and Dr. Thomas McElroy, Ponca City.

Industrial and Traumatic Surgery—Dr. I. C. Bollinger, Henryetta; Dr. O. S. Somerville, Bartlesville, and Dr. W. G. Chestnut, Miami.

Maturity and Infancy—Dr. Charles Ed White, Muskogee; Dr. J. B. Eskridge, Oklahoma City, and Dr. J. H. Veazey, Ardmore.

Neurology—Dr. R. M. Andersou, Shawnee; Dr. John A. Haynie, Durant, and Dr. W. H. Livermore, Chickasha.

Post-Graduate Medical Teaching—Dr. Henry H. Turur, Oklahoma City, Dr. H. C. Weber, Bartlesville, and Dr. M. J. Searle, Tulsa.

Study and Control of Cancer—Dr. C. P. Bondurant, Oklahoma City; Dr. W. S. Larrabee, Tulsa, and Dr. P. B. Champlin, Enid.

Study and Control of Tuberculosis—Dr. F. P. Baker, Tahina; Dr. R. M. Sheppard, Tulsa, and Dr. Carl Puckett, Oklahoma City.

Study and Control of Venereal Diseases—Dr. Joe Fulcher, Tulsa; Dr. S. F. Wildman, Oklahoma City, and Dr. F. J. Baum, McAlester.

Medical Economics—Dr. Horace Reed, Oklahoma City; Dr. W. A. Howard, Chelsea, and Dr. McLain Rogers, Clinton.

Public Health—Dr. J. Y. Battenfield, Oklahoma City; Dr. G. S. Baxter, Shawnee, and Dr. H. K. Riddle, Coweta.

Dr. Ewing also has announced his appointments to the standing committees. These appointments were approved during the Annual Meeting by the House of Delegates of the Association.

The new members and the committees to which they were appointed are: Dr. H. K. Speed, Sayre, Credentials; Dr. R. C. Pigford, Tulsa, Scientific Work; Dr. Roscoe Walker, Pawhuska, Medical Education and Hospitals; Dr. M. D. Carnell, Okmulgee, Publicity; Dr. J. M. Bonham, Hobart, Judicial and Professional Relations, and Dr. Frank W. Broadway, Ardmore, Public Relations.

Dr. Ewing also selected as members of the Women's Auxiliary Advisory council Dr. George H. Garrison, Oklahoma City; Dr. T. H. McCary, McAlester; Dr. W. L. Shippey, Poteau, and Dr. J. B. Hollis, Mangum.

Research on a large scale *at Lederle Laboratories*

Lederle is spending over \$100,000 a year on sulfonamide research and still more on other pharmacological investigations. But the traditional eminence of Lederle is in biologicals and the bulk of its research, employing many experienced scholars and a generous-sized staff, is devoted to blazing new paths toward better and still better antitoxins, anti-sera and vaccines. There are over sixty virus diseases of man or beast as yet unconquered, a new concept of the nature of virus to be applied and new tools like the air-borne centrifuges (60,000 r.p.m.!), the Tiselius machines and the electron microscope, all at work today for Lederle.

Fascinating fun for an eager staff in buildings all their own on Lederle's 200-acre serum farm!

LEDERLE LABORATORIES, INC.
30 ROCKEFELLER PLAZA NEW YORK, N. Y.



Auxiliary News

The Cleveland County auxiliary, which meets every second and fourth Thursday at the Central State Hospital at Norman, has adopted an English child. At the last meeting, 15 of the 26 members were present. Members of this auxiliary sew for the Red Cross at their business luncheon meeting every two weeks.

The Garfield County auxiliary met March 24 in the country home of Dr. and Mrs. Hudson of Enid, with 15 of the 20 members attending. Mrs. J. W. Mercer is president of this group. At the meeting, Mrs. Hawkins, a Public Health nurse, talked to the members on health subjects. The Garfield group sponsors a "Maid-School" in Enid.

Dr. Earl Woodson reviewed "Horse and Buggy," by Dr. Arthur E. Hertzler, at the meeting of the LeFlore County auxiliary, April 1, at the Hotel Judkins-Forbes. Mrs. Rush Wright is president of this group. At the meeting, the auxiliary voted to cooperate with the chairman of Cancer Control, and to observe Hospital day, May 12. Officers of the group for next year are: Mrs. S. D. Beville, president; Mrs. E. L. Collins, president-elect; Mrs. Rush Wright, vice-president; Mrs. Nelson Rolls, secretary-treasurer, and Mrs. Harrell Hardy, publicity.

Officers elected for next year for the Oklahoma County auxiliary are: Mrs. Neil Woodward, president; Mrs. W. Floyd Keller, president-elect; Mrs. P. M. McNeill, vice-president; Mrs. Milam F. McKinney, corresponding secretary; Mrs. Jess D. Hermann, recording secretary; Mrs. Allen Gibbs, treasurer; Mrs. Charles Smith, assistant treasurer; Mrs. F. Maxey Cooper, parliamentarian, and Mrs. Joseph W. Kelso, press and publicity. This auxiliary met April 23 at the Y. M. C. A. in Oklahoma City, when plans were made for the Public Relations Coffee, May 9, at which General Patterson, Dean of the Oklahoma School of Medicine, spoke on "Doctors in the

Defense Program." Each member of the auxiliary was allowed to bring two guests to the coffee. Also at the April 23 meeting, members voted to continue sewing for the Red Cross every Wednesday and to organize a First Aid unit. Plans were made to entertain guests at the State Medical meeting at a luncheon, May 20, at the Oklahoma club. Annual reports were given by all officers, and Mrs. F. Maxey Cooper, president, appointed a delegate and alternate for the A. M. A. meeting in Cleveland. Fifty-five of the 162 members were present.

Tulsa County auxiliary met Tuesday, April 1, in the home of Mrs. E. Rankin Denny, with Mrs. J. W. Rogers presiding. Thirty-two of their 138 members were present. The following officers were elected for the coming year: Mrs. T. B. Coulter, president; Mrs. J. W. Childs, president-elect; Mrs. Logan A. Spann, vice-president; Mrs. Hugh Evans, recording secretary; Mrs. Donald L. Mishler, corresponding secretary; Mrs. Ralph McGill, historian and Mrs. H. Lee Farris, parliamentarian. Annual reports were made by the officers. The Tulsa group purchased an Ultra-Violet Ray machine which is leased for \$1.00 a year to the Tulsa County Medical society.

New officers of the Pittsburgh County auxiliary are: Mrs. R. K. Pemberton, president; Mrs. A. R. Stough, vice-president; Mrs. Graham Street, secretary; Mrs. C. E. Lively, treasurer; Mrs. J. F. Clark, parliamentarian; Mrs. F. L. Watson, historian; Mrs. L. S. Willour, public relations, and Mrs. E. D. Greenberger, press and publicity.

Classified Advertisements

FOR SALE: One Wappler "MONEX" X-ray machine and Accessories. The machine does not interfere with radio reception and delivers 100 MA. The equipment invoiced \$1500 new. Address inquiries to Oklahoma State Medical Association, Box B, 210 Plaza Court, Oklahoma City.

For the local Treatment of Acute Anterior Urethritis

(DUE TO NEISSERIA GONORRHEAE)

SILVER PICRATE
Wyeth

Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by Neisseria gonorrhoeae.¹ An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

A complete technique of treatment and literature will be sent upon request

*Silver Picrate is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., 23, 201 (March), 1939.

JOHN WYETH & BROTHER, INCORPORATED, PHILADELPHIA

Lederle has taken over

CEREVIM^{*}

Cerevim is a pre-cooked cereal food of high nutrient values carefully balanced for the dietary requirements and digestive abilities of babies. It gets its calcium and phosphorus from milk powder and it is distinctly appetizing.

Hence, a willing intake! Infants gain weight and height on Cerevim.

All of which was indicated in 1937 in controlled studies on infants by Joslin and Helms¹ whose teachings are followed in the Cerevim formula.

Cerevim was designed to be baby's first solid food at 4 months, yet

—it has food values needed in the diets of adult invalids or dyspeptics requiring soft, bland, low-ash, easily digested diets attractive to frail appetites, and

—Admiral Byrd bought it for 25% of the balanced trail ration for his husky men in the Antarctic. Council-accepted . . . Sold only through drug stores

¹ARCH. PED., SEPT. 1937

Formula—Whole wheat meal • Oatmeal • Yellow corn meal
Barley • Powdered skim milk • Wheat germ • Dried
brewers' yeast • Malt • 1% table salt for flavoring

PACKAGES: 1 pound and ½ pound.

LEDERLE LABORATORIES, INC.
30 ROCKEFELLER PLAZA NEW YORK, N. Y.



*Cerevim has been hitherto marketed on a three-year trial basis on the Atlantic seaboard by Cerevim Products Corporation with increasing encouragement from leading pediatricians; hereafter Cerevim will be made and sold by Lederle Laboratories, Inc.

NEWS FROM THE COUNTY SOCIETIES

Members of the Tulsa County Medical society exchanged their medicine bags for golf bags, April 24, to participate in the annual golf tournament of the society. Dr. K. C. Reese, Tulsa, won the Dr. Albert Cook perpetual trophy when he finished first in the tournament, and Dr. James Braswell, also of Tulsa, won the Scotty Taylor cup for second place.

Dr. W. A. Showman, chairman of the society's golf committee, was in charge of arrangements for the tournament which was held at the Tulsa Country club.

The Pittsburg County Medical society joined the Pittsburg County Bar association in a meeting April 25 in the Hotel Crutcher, McAlester. Following a buffet supper, the lawyers presented a program on medico-legal subjects, and the doctors went on the witness stand for industrial disability.

After the meeting, a smoker was held.

Dr. C. F. Paramore, Shawnee, discussed "Obesity," and Dr. E. E. Rice, Shawnee, discussed "Intussusception" at the monthly dinner meeting of the Pottawatomie county society, April 19, in Shawnee. Twenty members of the society were present.

Dr. H. E. Hughes, Shawnee, will preside at the next meeting, May 17 in Shawnee. The program for this meeting has not been announced.

Guest speaker at the April 16 meeting of the Seminole County society was Mr. Boutwell of the Farm Security administration. Mr. Boutwell explained to the group how the administration paid doctors for medical care of the administration's loan families.

The society will hold its next meeting, May 21, in Wewoka.

Dr. Franklin T. Bowers of the American hospital, Picher, became a new member of the Ottawa County society, at a meeting April 17.

Speakers at the meeting were Dr. M. O. Hart, Tulsa, who discussed "Privileges," and Dr. W. H. Calhoun, who spoke on "Some Phases of the Injection Treatment of Hemorrhoids." Next meeting of the group will be held May 4.

Dr. Patrick Nagle, Oklahoma City, was the guest speaker at the Garvin County society meeting, April 16, at the Chamber of Commerce in Pauls Valley. Doctor Nagle discussed "Ruptured Appendix." The Garvin society will meet again at the Chamber of Commerce, Pauls Valley, May 14, when Dr. J. A. Walker, Shawnee, will discuss "The Pyramids of Egypt."

Dr. D. H. O'Donoghue, Oklahoma City, discussed "The Treatment of Fractures," giving particular emphasis to the medico-legal phase of his subject, at the regular meeting of the Cleveland County society, April 24, in the State Hospital, Norman. Doctor O'Donoghue illustrated his talk with a number of x-ray pictures.

The society also met April 29 in a special session for discussion of what part physicians will have to play in the national defense program. Members will meet again, May 8, at the State Hospital, Norman. Speaker for the evening will be Dr. Henry H. Turner, Oklahoma City, who will talk on "Male and Female Sex Hormones."

Fifteen physicians and their wives attended the May meeting of the Woodward County society, May 8, at the Methodist church, Woodward. Dr. Paul H. Daube, Shattuck, chose "Club Feet" as the subject for his talk, and Dr. W. R. Hunter, a guest, spoke on "Some Dental Problems."

The society held its April meeting in Woodward, April 10, when Dr. George H. Kimball, Oklahoma City, spoke on "Plastic Surgery," and Dr. Grace Hassler, also of Oklahoma City, talked on "Anesthetics." Next meeting of the society will be June 12 in Supply, with Dr. John L. Day and his staff acting as hosts.

The Payne County society met in a special session April 29 in Stillwater to discuss plans for physicians' participation in the national defense program. Twenty-five members were present at the meeting. Dr. R. E. Wagoner, Stillwater, led discussion on the plans, and Dr. W. L. Smith, Stillwater, presided.

Another county society met in special session to discuss the physicians' part in the defense program. Members of the Carter County group met April 28 in Ardmore, with Dr. F. W. Boadway, chairman of the county medical preparedness committee, in charge of the discussion.

All the Vitamins found in Wheat

(--Including 600 International
Units of Vitamin B₁ per loaf)



Note to Physicians:

Vita-B Bread is offered to the public as a part of a normal, balanced diet. Full information concerning formula, ingredients, etc., will be supplied physicians wishing to prescribe Vita-B in deficiency cases.

News From The State Health Department

The Oklahoma law requiring that blood tests for syphilis be made during pregnancy has been in effect now for two years.

The Oklahoma State Health Department wishes to again call to the attention of the physicians of the State, the contents of this law. It is as follows:

Article 3.

STATE DEPARTMENT OF PUBLIC HEALTH SEROLOGICAL BLOOD TESTS FOR SYPHILIS SENATE BILL 92.

AN ACT relating to serological blood tests for syphilis during pregnancy and reports thereof.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF OKLAHOMA.

Physicians—Duty—Blood Samples—Tests.

SECTION 1. Every physician attending a pregnant woman in the State during gestation shall, in the case of each woman so attended, at her request or with her consent, take or cause to be taken a sample of blood of such woman at the time of first examination, and submit such sample to an approved laboratory for a standard serological test for syphilis. Every other person permitted by law to attend upon pregnant women in the State, but not permitted by law to take blood tests, shall cause the blood of such pregnant woman to be taken by a duly licensed physician and submitted to an approved laboratory for a standard serological test for syphilis. The term "approved laboratory" means a laboratory approved for this purpose by the State Commissioner of Health.

A standard serological test for syphilis is one recognized as such by the State Commissioner of Health. Such laboratory tests as are required by this Act shall be made on request without charge by the State Department of Public Health.

Births—and Stillbirths—Certificates—Blood Tests.

SECTION 2. In reporting every birth and stillbirth, physicians and others permitted to attend pregnancy cases and required to report births and stillbirths shall state on the certificate of birth whether a blood test for syphilis has been made during such pregnancy upon a specimen of blood taken from the woman who bore the child for which a birth or stillbirth certificate is filed, and if made, the date when such test was made, and, if not made, the reason why such test was not made. Such information shall be in addition to that required to be included in certificates of birth by Section 4509, Oklahoma Statutes 1931. In no event, however, shall the certificate of birth state the result of the test herein required.

Approved March 10, 1939. Acts of the Seventeenth Legislature.

The standard certificate of birth for the State of Oklahoma, Section 23 (b), asks "Was Blood Test for Syphilis Made," but the physician is not to give the results of the test. At the present time, only 39 per cent of the certificates of live birth coming through the State Health Department, have the answer "Yes" to this question while only 21 per cent of the stillbirth certificates answer "Yes" to the question. We are not proud of this figure when such states as New Jersey report 93 per cent "Yes" to live births, and 42 per cent "Yes" to stillbirths.

It is felt that more mothers are receiving blood tests than the 39 per cent and 21 per cent, respectively, but that the physicians are failing to indicate on the certificates as to whether the test has been made or not.

It is highly essential that routine serological blood tests for syphilis be made on all pregnant women, as at least 1,000,000 women of child bearing age in this country, have contracted syphilis, many of them innocently. Five times out of six, mothers with untreated syphilis, bear diseased or dead babies. Nine out of ten of them

—deaths, abortions, stillbirths, and congenital syphilitics, need not have happened. Modern medical treatment given—not to the infant—but to the mother during pregnancy, will insure birth of a healthy, living baby in practically every instance.

Prenatal syphilis can be stopped if mothers know that they are infected with syphilis. It is not enough to treat only pregnant mothers with visible signs of syphilis, but it is highly important for every mother, during pregnancy to have a blood test.

No mother objects to a drop of Silver Nitrate in the eyes of her baby, which has wiped out infant gonorrheal blindness. In fact, she would complain if the doctor forgot the drop. Prenatal syphilis may be wiped out in the same way if routine blood tests and medical treatment are given.

Time is the most important element in the treatment of pregnant mothers for syphilis. Every treatment that can be given before the baby is born, is a safeguard against disaster. Hence, it is necessary to discover the infection in the mother as soon as possible. When the infection is discovered before the fifth month of pregnancy, and treatment is given continually until birth, in nearly every case, the baby will be born healthy, untouched by syphilis.

Let us all strive to increase the number of blood tests early in pregnancy on all pregnant mothers, so indicate on the birth certificate—and insure adequate anti-syphilitic treatment.

The Oklahoma State Health Department has a new book "Syphilis in Mother and Child," which they will supply to any physician upon request to his full time county health department, or from the State Health Department.

Group Hospital Service Again Approved in 1941

Group Hospital Service has been notified of its approval by the American Hospital Association for 1941. The organization received its first approval shortly after it began operating in the state and is the only approved plan in Oklahoma.

In again being honored in this respect, GHS is meeting all of the strict standards imposed on such service plans by the American Hospital Association. The approval is based upon its compliance with such standards plus community service. The Oklahoma State Hospital Association as well as the Oklahoma State Medical Association should feel justly proud of the record made by GHS in its first year of operation.

Dr. George W. Sisler (1863-1941)

Death claimed an outstanding member of the medical profession March 23, when George W. Sisler, M. D., died at his home in Tulsa. Dr. Sisler was 77 years old. His death was caused by coronary thrombosis.

Dr. Sisler was born May 3, 1863, at Stewartstown, West Va. He received his preliminary education at the University of West Virginia at Morgantown, then taught school several years in Mississippi. In the summer of 1903, he went to the University of the South at Sewanee, Tenn., to begin his medical education; that fall, he attended the Memphis Hospital Medical college.

He was graduated from Maryland Medical college at Baltimore in 1905, and was licensed to practice medicine in the state of Mississippi. He did general practice at Water Valley, Miss., from 1905 until 1924, when he moved to Bristow, Oklahoma. In Bristow, he remained in general practice until 1933 when he retired and moved to Tulsa.

His survivors include his wife, Mrs. Margaret R. Sisler, Tulsa; two sons, Dr. Frank Sisler, Bristow, and Dr. Wade Sisler, Tulsa; three daughters, Miss Ella Sisler, Tulsa, Mrs. John P. Stone, Coffeyville, Miss., and Mrs. Margaret Bond, Tulsa; a brother, C. B. Sisler, Vardaman, Miss., and a sister, Mrs. Saxe, Morgantown, West Va.

BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

A SURGEON'S LIFE, THE AUTOBIOGRAPHY OF J. H. T. FINNEY. By Cloth. Price \$3.50. New York: G. P. Putnam's Sons, 1940.

An interesting story of a well known surgeon whose career was influenced by three great universities and intimately linked with the most productive period in the history of medicine.

The life story is well told and it reveals the development of laboratory procedures, experimental medicine, the perfection of anesthesia; the transition from antiseptic to aseptic surgery and the gradual perfection of surgical technique with the ever-widening field for surgical approach and accomplishment.

It gives an account of his academic education at Princeton, his service on the Board of Trustees and later his refusal to accept the Presidency of Princeton University. It tells of his medical education at Harvard with side-lights on the outstanding members of the Medical School Faculty, including Oliver Wendell Holmes who, though retired from active duties, occasionally gave a lecture on anatomy. It relates his experiences as an intern at the Massachusetts General Hospital; including an attack of appendicitis which placed him under the care of Dr. Fitz, who treated him expectantly, although he had already published his description of appendicitis, giving diagnostic criteria announcing the efficacy of surgical treatment.

It tells of his going to Johns Hopkins to work under Halsted, where he observed the magic work of the "Big Four" in the development of a great medical school. It depicts the unfolding of his own surgical career under the most favorable and inspiring environment. It gives an interesting account of his services in the Medical Department of the A.E.F. Base Hospital Eighteen, and his return to civil life after the World War when, in the mellowing years, he achieved a greater success in his profession and extended his influence in the field of education and in social, political and civic welfare.

His intimate, personal sketches lead to a better knowledge and greater appreciation of men like Osler, Welch, Kelley, Halsted, Thayer and Barker.

Finally, there is a wealth of humor to enliven the perusal of this valuable book. Dr. Finney's appreciation of the colored people, his skilful manipulation of their language and his well chosen Negro stories, glowing with their naive response to environment, add a rare charm and lessen the tedium which otherwise might characterize the story of such a strenuous life crowded with heavy responsibilities.—L.J.M.

THE LIFE OF CHEVALIER JACKSON, AN AUTOBIOGRAPHY. Cloth. Price \$3.50. New York: The MacMillan Company. 1938.

A book every young doctor should read. In a very short preface the author declares that he never thought that anyone would be interested in the events of his life until requests for biographical material came from various sources. He also "disavows any thought of presenting an example to be followed." This brevity, with the expression of innate modesty and the sincere disavowal, immediately recommends the book to modern youth.

It is easy to read, the illustrations are interesting and instructive, and the subject matter is so skilfully handled there is not a dull chapter among the thirty-two making up the volume. This sustained interest is due to intensive living with never a moment's pause. Chevalier Jackson's life represents a ceaseless struggle;

first against poverty, later the toxemia of tuberculosis and always the interesting obstacles in the way of progress along an unblazed trail. His remarkable career exhibits unusual industry and imagination, exceptional mental acumen, rare mechanical ingenuity, with a strange agility of coordination leading to the accomplishment of difficult tasks.

No one can read of his first fishing experience, his struggle for an education, his early practice, the dark days in Pittsburgh and the beginnings of bronchoscopy without hurrying on to learn of his marvelous development of a new field, his spreading fame at home and abroad, his burning desire for the dissemination of knowledge acquired in order to alleviate suffering and to save life.

Dr. Jackson's periodic bouts with tuberculosis constitute an interesting phase of his life. As so often happens when this disease descends upon those who possess unusual mental qualities, a seeming calamity was turned into a blessing. Enforced bed rest provided time for both thought and action, accumulated data were assembled, illustrations planned and manuscripts prepared for publication. Without the conditioning influence of tuberculosis, the world would have waited much longer for detailed accounts of Chevalier Jackson's work, and aspirated foreign bodies would have killed thousands while the medical profession awaited his reports on bronchoscopy.

Enough has been said to show that here is the life story of an exceptional man with a distinctive type of mind. Such a personality could hardly escape eccentricities. They are strikingly revealed and quite worthy of serious study. Those who read intelligently will find, in the story, a happy man containing a wealth of common sense and inescapable inspiration.—L.J.M.

Train Schedule For A. M. A. Meeting

Physicians traveling to Cleveland to the American Medical Association meeting June 2-June 6, will be interested in the following train rate list and time schedule:

Going

FRISCO LINES			
Lv. Oklahoma City	5:45 PM	Daily	.
Lv. Tulsa	8:35 AM	Daily	.
Ar. St. Louis	8:00 AM	Next day.	.
BIG FOUR RR			
Lv. St. Louis	9:10 AM	Daily.	.
Ar. Cleveland	8:15 PM	Same day.	.

Return

BIG FOUR RR			
Lv. Cleveland	8:00 AM	Daily.	.
Ar. St. Louis	4:58 PM	Same day.	.
FRISCO LINES			
Lv. St. Louis	6:30 PM	Daily.	.
Ar. Tulsa	*5:20 AM	Next day.	.
Ar. Oklahoma City	8:10 AM	Next day.	.
* Sleeper sets out in Tulsa and can be occupied until 8:00 AM.			

From

	Oklahoma City	Tulsa
Round trip first class fare to Cleveland, good for 60 days	\$56.25	\$49.35
Round trip fare to Cleveland, using pullman to St. Louis and coach to Cleveland	40.45	35.15
Lower berth to St. Louis	4.20	3.70
Upper berth to St. Louis	3.20	2.80
Seat in pullman, St. Louis to Cleveland	\$2.10	

Pullman rates for the round trip—double the above amounts.

REVIEWS and CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments From
LeRoy Long Clinic
714 Medical Arts Building, Oklahoma City

"Review of the First Meeting of the Surgical Investigative Society of the South, Oct. 6 and 7, 1940, Vanderbilt University School of Medicine, Nashville, Tennessee." By Michael DeBakey, M. D., Tulane Medical School, New Orleans. Surgery, March, 1941, Vol. 9, No. 3, Page 483.

The Surgical Investigative society of the South has been organized from a group of southern surgeons. The purpose of the organization is to band together a small group of contemporaries, interested in surgical progress and by annual meetings at some medical center to exchange ideas and to see for themselves the advances and research, in progress.

"The Use of Sulfanilamide, Sulfapyridine, and Sulfathiazole on the Surgical Service of Johns Hopkins Hospital." By Samuel McLanahan, Baltimore.

With the development of new derivatives in the sulfanilamide group, the indications for and use of these drugs are undergoing constant change. Sulfanilamide, however, continues to hold its place in the treatment of hemolytic streptococcal infections. In Welch bacilli infections it has proved effective clinically. Especially has it been used prophylactically in compound fractures and other open wounds. Introduced locally in the wound it has apparently been effective and has not interfered with wound healing.

Sulfapyridine was a welcome addition to the series, but in actual practice it is being replaced very largely by sulfathiazole. The latter drug is less likely to produce nausea but more likely to produce a rash and the troublesome drug fever.

In abdominal surgery, sulfathiazole is achieving special success. Recent reports by A. F. Jonas indicate its effectiveness in treating and preventing peritonitis. It has been given as a routine measure in the postoperative treatment of ruptured appendicitis and abdominal trauma, and as a preoperative measure in operations upon the colon. The sodium salt, not yet available commercially, has frequently been employed for intravenous use. Rectal strictures due to lymphopathia venereum have responded to sulfanilamide, sulfapyridine, and another drug, sulfanilic acid.

"Round-Table Discussions on Suture Material and Wound Healing." By Michael DeBakey, New Orleans.

DeBakey prefaced the discussion by stating that the purpose of the round table was to present an opportunity for the members to discuss informally some surgical subject previously selected of current interest. Such a discussion would permit members of various sections to express their opinions and experiences and help crystallize a more rational comprehension and perhaps allow a better evaluation of the subject.

Because of the recent revival of interest in suture material, it was selected for this discussion. In the surgical service at Tulane University they had previously employed catgut and this was followed by the use of silk. On the basis of extensive experimental studies done

in the Experimental Laboratory at Tulane by Alton Ochsner and Wm. Meade, it was found that cotton was the most desirable suture material. This was verified clinically and at present cotton is used exclusively. The advantages of cotton are that it produces minimal tissue irritation, is pliable and easily sterilized, is of sufficient strength in appropriate sizes, and is economical. Its tensile strength in tissue decreases considerably less than catgut, silk, or linen.

In clinical practice it should be realized that Halsted's rules regarding the use of silk must be strictly adhered to in the use of cotton. Ordinary spool cotton thread as bought in a notion store is employed. It is prepared by wrapping it on rubber tubes and autoclaving it for fifteen minutes at 15-pound pressure or by boiling for twenty minutes. For ligation of small vessels in the subcutaneous tissue or other areas, No. 60 or 80 is used. For approximation of the peritoneum or fascia, "quilting cotton" is employed. A heavier material is rarely necessary, but occasionally No. 10 mercerized crochet cotton may be required. Samuel McLanahan, Baltimore, asked about cotton in the face of infection. DeBakey stated that on the basis of their experience one of the most important uses of nonabsorbable suture material is in contaminated wounds. Cases in which cotton was used in severely infected wounds have been observed to heal without sinus formation or the extrusion of the sutures. Apparently this complication is less likely to occur with cotton than with silk. Moreover, the use of a nonabsorbable suture material in the presence of infection is considered more desirable than the use of absorbable material because wound disruption is believed to be more likely with the latter for two reasons; first, the infection delays wound healing; and second, the liberated proteolytic ferments cause early digestion of the suture material. John V. Goode, Dallas, stated that he has used cotton ever since an article appeared in the Journal of the American Medical Association, in which a case was described of a colored woman who had the external carotid tied and no cotton came out in spite of wound infection. An important advantage is that it can be so easily sterilized. He stated that in a case in which the ovaries were removed the skin edges were closed with a subcuticular piece of cotton which is still there and there has been no reaction. He has watched this with a great deal of interest. Donald Donaldson, Birmingham, Alabama, asked if silk is used to close the peritoneum and if continuous sutures are ever used. DeBakey answered that cotton is used all the way through and that interrupted sutures are used exclusively. He emphasized the importance of cutting the suture down on the knot. To facilitate this a special suture scissors has been devised and was described in the J.A.M.A. 112: 4210, 1939. Richard T. Shackelford, Baltimore, stated that one other suture material has been overlooked and that is alcohol-preserved fascia. Not many surgeons use it. Their experience has been that there is considerable accumulation of fluid interfering with the healing of the wound. Probably fascia is not used in the proper way. He and his associates have used it a great deal. This includes about 185 to 190 hernia patients. Experience has shown that, if the fascia is properly soaked before the time of operation, accumulation of secretion does not occur. In an operation is to be done at 9:00 A. M., the nurses place the alcohol-preserved fascia in a basin of salt solution as soon as they enter the operating room at 7:30, one and one-half hours before time to start the operation. Then it is changed to a fresh basin of solution and left

there until 9:30 or 9:45. Frequently in large post-operative hernia one saves a great deal of time by not having to make a long incision in the thigh to obtain autofascia. There are many times when one cannot dissect a section of the rectus sheath. Alcohol-preserved fascia can solve a lot of these difficulties, and the secret of its proper use is the elimination of the chemical element. They have used it on animals and in human beings and have seen little, if any, difference in any way in the healing with alcohol-preserved fascia and autofascia.

LeRoy D. Long.

"Dermoid Cysts of the Ovary." By Herman J. Linn, M. D., and Alex B. Ragins, M. D., Chicago, Illinois. American Journal of Obstetrics and Gynecology, February, 1941, Vol. 41, No. 2, Page 328.

This is a report of the dermoid cysts of the ovary removed at operation at the Cook County Hospital from July 1928 to December 1938. There were 121 such dermoid cysts, comprising 14.9 per cent of all ovarian tumors, excluding enlargements of the ovary due to simple follicular cysts and corpora hemorrhagica.

The presenting symptom was pain in the abdomen in 49.4 per cent and swelling of the abdomen in 29.2 per cent. The next most frequent complaint was menstrual changes, occurring in 15.7 per cent of the patients.

"The dermoid cysts were correctly diagnosed preoperatively in only 3.1 per cent of the cases, but the diagnosis of ovarian tumor or cyst was made in 30.9 per cent of the cases. The other common preoperative diagnoses were uterine fibroids in 39.2 per cent, and chronic salpingitis or tuboovarian abscess in 13.4 per cent."

The authors emphasize the fact the dermoid cysts, though one of the commonest ovarian tumors, are seldom diagnosed preoperatively because of the indefinite symptoms they produce. They are also often incident to other pelvic conditions.

COMMENT: The value of this article lies in the re-emphasis of the fact that dermoids are not uncommon tumors of the ovary and must always be considered in a differential diagnosis when an ovarian tumor is encountered. Since all neoplastic ovarian tumors deserve operation, it may be said that the preoperative diagnosis is not important. However, it is only by the most careful diagnostic measures preoperatively that we can best improve the definiteness and accuracy of our surgical treatment of pelvic disease.

Wendell Long.

"Clinical Evaluation of Stilbestrol in Women With Hypoplastic Genitalia." By H. Harold Lardaro, M. D., F. A. C. A., New York, N. Y. American Journal of Obstetrics and Gynecology, February, 1941, Vol. 41, No. 2, Page 301.

"Except in rare instances this drug does not produce any demonstrable enlargement of the uterine cavity.

"It seems definitely to have clinical estrogenic effects.

"It produces undesirable side reactions in a large percentage of patients. These may or may not be toxic.

"These side effects seem to be at least as frequent and as severe by the intramuscular route as those reported by the oral route.

"These side effects are not permanent and disappear with cessation of therapy.

"Its effect on the endometrium and on the menstrual cycle seems to resemble closely that of large doses of the natural estrogens.

"Tolerance seems to be frequently developed. There appear to be no cumulative effects from continued use of the drug.

"In a small number of patients treated with varying dosages, it was our experience that the side effects varied with the dose administered."

"Result of Therapy. — In not one case did we see any improvement or other effects on the secondary sex characteristics. There was no enlargement of the breasts or labia. Three patients developed engorged, swollen,

and painful breasts. Two of these were quite severe, the other only slightly so. One of these patients with oligomenorrhea had had some breast discomfort for many months. Her symptoms were aggravated and persisted for three months after cessation of therapy. In the others, the symptoms cleared up on discontinuing medication."

COMMENT: This is another report on Stilbestrol which confirms previous observations upon the drug.

This article is particularly important because there was no enlargement of the genitals or improvement of the condition for which it was employed.

Wendell Long.

"The Endometrial Biopsy in Early Extrauterine Pregnancy." By Daniel R. Mishell, M. D., Newark, N. January, 1941, Vol. 41, No. 1, Page 129. J. American Journal of Obstetrics and Gynecology,

Suction endometrial biopsy was utilized in two patients of suspected extrauterine pregnancy. The histologic findings obtained were defined to warrant the diagnosis of early gestation. Attention is called to the fact that there is a characteristic glandular pattern seen in early pregnancy, that there is a decidual reaction, and that there are no chorionic villi within the uterus if the pregnancy is outside of the uterus.

Both of the case reports given show a history of pain and vaginal bleeding with the histological findings from the biopsy of the endometrium indicative of extrauterine pregnancy. Both patients were operated upon and tubal pregnancies found. Frozen sections were employed to study the endometrial biopsies so that very little time elapsed between the biopsy and the operative procedure.

"It must be borne in mind that the endometrial study should not be regarded as the sole method of establishing the diagnosis. We must take into consideration the history and the clinical data, together with the histologic findings. Furthermore, it must be emphasized that endometrial biopsy should not be attempted if intrauterine pregnancy is suspected."

COMMENT: The diagnosis of extrauterine pregnancy can be a most trying one and any information or means of obtaining information becomes valuable in particular diagnostic problems. Since it has been known for a considerable time that there is a peculiar glandular pattern, a typical decidual reaction, and no chorionic villi in the uterus when there is an ectopic pregnancy, the use of the suction endometrial biopsy punch offers a simple way of obtaining a specimen in early suspected cases. As has been pointed out frequently and is here again emphasized, the decidua is absent from the uterus frequently in long-standing ruptured ectopic pregnancy and a negative endometrial biopsy in long-standing patients would be of relatively little value.

Wendell Long.

"Irradiation of Benign Pelvic Lesions." By Willis E. Brown, M. D., N. R. Kretschmar, M. D., and John T. McGreer, M. D., Ann Arbor, Michigan; American Journal of Obstetrics and Gynecology, February, 1941, Vol. 41, No. 2, Page 285.

This study was undertaken by the authors to determine: (1) the efficiency of irradiation in control of uterine bleeding, (2) the evaluation of the menopausal symptoms which might ensue and (3) the improvement of their method of applying roentgen radiation for the purpose of castration.

From July 1925 to July 1937 they treated 334 patients with X-ray or radium for benign pelvic lesions. Of these, 78 per cent were treated because of abnormal uterine bleeding, 3 per cent because of endometriosis, 13 per cent because of debilitating extrapelvic lesions, such as carcinoma of the breast and advanced pulmonary tuberculosis, and 15 per cent because of persistent chronic salpingo-oophoritis.

All patients treated for benign uterine bleeding were curetted on one or more occasions and the material so obtained examined carefully microscopically to rule out the presence of a cancer.

They describe in some detail their method of varying the X-ray dosage in accordance with the patient's weight and it appears by their study that at least 625 r. to 749 r. to the ovary is necessary to assure permanent castration regardless of age.

"It should be noted that 5 of the 6 patients receiving the smallest amount of irradiation given in this series (125 r. to 249 r.) and intended as a temporary or sub-castration dose were castrated permanently."

Sixty-three of the patients were treated by means of an intrauterine application of radium. One thousand to fifteen hundred mg. hours of radium was efficient in 77 per cent of the cases in producing castration. While their group with larger dosages is smaller, they feel that probably 1,500 to 2,000 mg. hours should be sufficient for castration in most instances. Yet, here again, they are struck by the variability in the effect of smaller dosages. "Attention is called to the one patient who received less than 500 mg. hours and yet was permanently castrated. Here, as with X-ray in small doses given for temporary or partial castration effect, sufficient uncertainty exists to offer a serious objection to their use in young individuals with the hope that symptoms will be controlled without interference with fertility in later years."

Of 160 patients who were castrated and were free from hot flashes before irradiation, 118 or 73 per cent developed this symptom following treatment. Among the 32 patients not castrated, 62 per cent developed hot flashes. In a controlled study of surgical castration, 86 per cent of the patients developed hot flashes after bilateral oophorectomy and 58 per cent developed them after hysterectomy with ovarian conservation though no description is given as to ovarian disease at the time of operation nor the amount of ovary retained. It is their conclusion that incidence of hot flashes after castration by irradiation is somewhat less than that following bilateral oophorectomy and they feel their figures suggest that sub-total hysterectomy with ovarian conservation will alter ovarian function to almost the same extent as complete castration by irradiation.

In their castrated patients 42 per cent reported a decrease in libido and those with a recurrence of menstruation after treatment 36 per cent stated that there was a decrease in libido. In their controlled surgical group they felt that the surgical and irradiation effects were about the same.

"The use of radiation in adequate dosage, either X-ray or radium, appears to be an efficient means of controlling benign bleeding. It is most applicable in women approaching the menopausal age who have completed their reproductive activity. The age at which a patient should be considered as near the menopause is debatable but since reports on large series of cases indicate that the menopause occurs before forty years of age in 5 to 12 per cent of women, and between 40 and 45 in 75 per cent to 80 per cent of the women, a woman of 40 or over may be considered as approaching the menopause. In properly selected cases in this age group, radiation is preferred to hysterectomy because, (1) it has proved to be efficient, (2) it is practically without risk, and (3) it is much more economical. Furthermore repeated observation of these patients gives rise to the impression that the menopausal symptoms which develop are no more severe nor of longer duration than those associated with the normal menopause.

A diagnostic dilatation and curettage should always precede the treatment to avoid overlooking possible malignancy. In the presence of palpable disease of the adnexa, surgical intervention is preferable, since it permits adequate inspection of the pelvic lesion. Furthermore, we are of the opinion when fibromyomas are present which exceed the size of a two and one-half to three months' pregnancy that surgical removal is better than irradiation, because it completely eradicates the lesion, prevents recurrence of symptoms, and avoids complications due to degenerative changes in the tumor.

In young women, radiation should be used only when

conservative measures fail or other methods of treatment are contraindicated, since castration by any method is to be avoided in this group whenever possible. Since the methods of temporary or subcastration seem so unreliable, we advise against the use of even small doses of radiation in these patients. If conservative measures fail in the treatment of abnormal bleeding in the young woman, it is felt that hysterectomy is to be preferred, since retention of the ovaries is definitely desirable for their psychic value, and also in the hope that they will retain their endocrine function. Radiation, however, should be used in these patients if they are poor operative risks."

COMMENT: This is an excellent contribution, made especially so by the fact that it represents both the gynecological and the roentgenological departments of an excellent hospital.

Irradiation of benign pelvic lesions is a splendid form of treatment in a very carefully selected group of patients. It is significant that only 260 patients were treated for benign uterine bleeding at the University Hospital in Ann Arbor during 12 years' time. Considering the great number of patients who undoubtedly presented themselves with a complaint of abnormal uterine bleeding during this long space of time, this is a very small per centage and indicates very careful selection of the material for this type of therapy.

Despite the fact that irradiation is a good treatment in selected patients with benign pelvic lesions, one must be familiar with the rather long list of contraindications to its use in order to obtain the satisfactory results such as reported here.

It should also be emphasized that all of the patients reported here who were treated for benign abnormal uterine bleeding had a diagnostic dilatation and curettage preceding treatment.

Their observations concerning libido are particularly interesting.

Wendell Long.

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M. D.
911 Medical Arts Building, Tulsa

"A Digest of the Transactions of the American Laryngological, Rhinological, and Otological Society, 45th Annual Meeting." pp: 67-71; Published in the Digest of Ophthalmology and Otolaryngology, March, 1941. Original Article by Bert E. Hempstead, M. D., Rochester, Minn.

Surgical treatment of chronic maxillary sinusitis may be either radical or conservative; definite and rigid rules cannot be laid down, for treatment must be suited to the individual patient. There are patients for whom only a radical operation will suffice, but usually, conservative measures will restore the antrum to a normal state.

To determine the type of operation to be used, a careful preoperative study of the maxillary sinus should be made. This examination is not complete without use of the antroscope. By means of this instrument, the presence of polyps, cysts and tumors, as well as the condition of the lining mucous membrane, often can be determined.

To estimate the benefit derived from the conservative treatment of chronic maxillary sinusitis, I studied, in 1927, the histories of 385 patients so treated. An effort was made to determine the causative background and thereby to ascertain whether certain types of disease of the antrum would respond to conservative methods. Most of the patients could not give the date of the onset of symptoms, nor did they know whether their

symptoms accompanied a cold in the head. Many were able to trace the infection in the antrum to a diseased tooth or to its extraction. In 22.5 per cent of the cases, the infection clearly followed extraction of abscessed molars. In sixty-three cases, a fistula was present, extending through the alveolar process and into the antrum.

Antral infection of dental origin was usually marked by several characteristics: (1) the infection was confined to the antrum and was unilateral; (2) the upper sinuses were not involved; (3) the pus was foul-smelling, similar to that associated with infection caused by the colon bacillus; (4) polyps had not formed; and (5) healing was unusually rapid after institution of suitable drainage and ventilation. In all these cases the infection in the antrum cleared, and many of the alveolar fistulae closed, after curettage. In the other cases, it was necessary to close the fistula by utilization of some form of flap. All fistulae eventually were closed.

A review of these 385 cases shows that it was necessary to do a Caldwell-Luc operation in two cases. In both cases the antrum was filled with polyps. In two cases, osteomyelitis of the maxilla followed; one patient died and one recovered. The case of the patient who died was complicated by severe bilateral bronchiectasis and marked inanition. Stenosis of the tear duct associated with epiphora was seen in three cases. In four cases, membranous closure of the window occurred, and a second operation was necessary.

Tucker called attention to the fact that the major part of the pathologic change common to sinus disease occurs in the mucous membrane. He believes that conservative measures should be employed. In a series of 673 patients having chronic maxillary sinusitis who were operated on by the intranasal method, it was necessary to do a Caldwell-Luc or some other type of radical operation for six. Forty-seven cases in this series, or 7 per cent, were of dental origin. It is interesting to note that in the cases of nine patients in whose sinuses polypi could be seen at operation, the polypi could not be seen later. It seems to me that this observation is proof that drainage and ventilation do permit the diseased membrane to return to normal and that its extirpation is not always necessary.

Stevenson in an excellent article reported 192 cases of chronic maxillary sinusitis. He came to the conclusion that intranasal surgical treatment was the method of choice for primary attack in all cases of chronic antral infection. Ninety-four and two-tenths per cent of his patients recovered completely following this procedure.

Of the group of 123 patients not seen after operation, 104 reported that they had experienced no return of their former symptoms. Four of the nineteen patients who reported unsatisfactory results were undoubtedly allergic. Two had severe bronchiectasis. The poor end-result for another patient was the result of undiagnosed frontal sinusitis. A poor result was obtained for one patient who had severe diabetes associated with ozena. One patient who had a large choanal polyp was not cured. Severe osteomyelitis was the cause of another failure. For two patients, failure of the surgeon to close an alveolar fistula was the cause of a poor result. For another patient, complete relief was obtained after a Caldwell-Luc operation had been performed. Four patients reported poor results; no cause for the failure of operation could be determined.

"Simultaneous Immunization Against Whooping-Cough and Diphtheria." By A. H. Schutze, *The Lancet*, 1940, ii, 192.

A series of experiments was conducted on guinea pigs and rabbits. These were given diphtheria toxoid and pertussis vaccine at the same time. These experiments demonstrated the fact that the potency of one solution did not suffer by the inclusion of the other one. If this is true it will be a matter of great convenience to immunize against diphtheria and whooping cough at the same time.

"The Treatment of Cancer of the Larynx." By Chevalier L. Jackson, M. D., Philadelphia, Pa., *Southern Medical Journal*, March, 1941.

This is a very valuable, detailed report, accompanied by beautiful illustrations. I know of no other recent publication that is comparable. The author's own summary is as follows:

(1) The treatment of a cancer of the larynx should be undertaken only after a biopsy-proven diagnosis has been made.

(2) Laryngofissure is the treatment of choice in anterior intrinsic cordal cancer, using (a) the clipping technic if the lesion involves only the middle third of the cord, and (b) the Chevalier Jackson anterior commissure technic if the lesion reaches the anterior commissure. The operation of laryngofissure should give over 80 per cent cures in suitable cases.

(3) Laryngectomy is indicated if the lesion involves the arytenoid region, with impairment of motility, or if it extends subglottically. Attention is called to the recent trend toward a "narrow-field" type of operation. The operation of laryngectomy should have a very low operative mortality, and should give at least 50-60 per cent cures in advanced intrinsic cases beyond the possibility of cure by laryngofissure.

(4) Irradiation, by the protracted fractional (Coutard) technic or by radium bomb may be used instead of laryngectomy in cases where the posterior extent is a little too great for laryngofissure, but preferably when the cord is not fixed. It may also be used when operation is refused, or when the patient's age, temperament or general physical condition contraindicate operation, and in extrinsic inoperable cases. In a small series of cases treated by x-ray alone a three-year cure was obtained in 45 per cent.

(5) Histopathology should be studied and recorded. It is of particular value in the selection of treatment in borderline cases. Tumors of well differentiated "low grade" type are probably of the best prognosis, whether treated by surgery or by irradiation, but we always consider surgery as the first choice in such cases, provided there is no contraindication.

(6) Curing the cancer is the first consideration in treating cancer of the larynx, but the second consideration is voice. After laryngofissure, the patient will have a useful voice, but its tone quality and carrying power cannot be guaranteed. The bucco-esophageal voice that can be developed after laryngectomy is quite satisfactory and vastly preferable to the voice produced by the artificial larynx. While this bucco-esophageal voice is picked up spontaneously by many patients, systemic instruction is of great help. The voice after treatment by irradiation will be best of all, but this fact should not lead us to give this treatment when surgical extirpation is indicated.

"Meniere's Syndrome." By John H. Talbot, M. D., and Madeline R. Brown, M. D., Boston. *Journal A. M. A.*, January 13th, 1940. cxiv, 2.

Forty-eight patients with Meniere's syndrome were studied. The concentrations of the acid base constituents such as total fixed base, sodium, potassium, calcium, chloride, total carbon dioxide, phosphate, protein, and non-protein nitrogen, were determined on 28 patients. There was no considerable variation from normal findings. Four of the patients were checked during an acute attack and these showed an increase in the concentration of serum potassium and a decrease of serum sodium. By giving large amounts of sodium salts intravenously and orally an attempt was made to produce an attack. This was a failure. Therefore, it was concluded that hydration, alkalosis, or an elevated serum sodium does not necessarily accompany Meniere's syndrome. The patients were treated for 18 months with a high potassium intake. They were all benefited but not cured. The article is accompanied by a bibliography and tables.

PLASTIC SURGERY

Edited by George H. Kimball, M. D., F. A. C. S.
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"The Pedicle Tube-graft in the Surgical Treatment of Hypospadias in the Male With a New Method of Closing Small Urethral Fistulas." By David M. Davis, M. D., Philadelphia, Penn., S. G. & O., December, 1940.

The author calls attention to the fact that successful surgical correction of hypospadias in the male depends entirely on meticulous attention to a multitude of small details. He also points out that the technique in this particular operation is not standardized. To create a condition as near normal as possible requires several plastic procedures. The author states that the construction of a urethra is now possible.

The first step in the correction of the so-called penoscrotal hypospadias is to eliminate the congenital chordee before any further surgery is attempted. The author points out by illustrations how this maneuver is carried out. In order to construct a hairless urethra of sufficient caliber and of adequate length, he uses the skin from the dorsum of the penis.

After the tube is made, the author makes an opening through the body of the penis and brings the tube out to the tip. He later utilizes tissue from the ventral side to complete the tube. Like most men who have done this kind of work the author has had some cases of fistula. He therefore shows in detail a method of closure. The article is well illustrated together with some case histories.

Conclusions: The technique of reconstruction of a urethra in cases of hypospadias is gradually being improved. Anyone who undertakes such a task must avail himself of every possible advantage to avoid disaster. All of these cases are long drawn out and the people must be advised as to the possibilities.

The author stresses diversion of the urinary stream from the operative field during the healing period.

CARDIOLOGY

Edited by F. Redding Hood, M. D.
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"The Treatment of Edema." H. M. Marvin, M. D., New Haven, Conn., *Modern Concepts of Cardiovascular Disease*, March 1941.

Edema may be defined as the presence of excessive quantity of serous fluid in the intercellular spaces of the subcutaneous or deeper tissues and in the serous cavities. The presence of edema is an indication of some abnormal process, and the aim of medical treatment should be the correction or removal of the cause. Of the many conditions with which edema may be associated only one will be considered in this review, namely congestive heart failure.

The capillary wall is freely permeable to water and to most of the crystalloids of the blood, and these substances would pass readily into the tissue spaces if there were no opposing factor. But the presence of proteins, chiefly albumin, in the blood plasma exerts a strong counter influence, for these proteins do not pass readily out of the capillaries and by remaining in the lumen they tend to draw fluid into the vessels through the process of osmosis. It is clear that the direction in which fluid will pass through the capillary wall will depend largely on the balance of these two forces. Edema may result therefore from either or both of two changes: an increase in capillary pressure or a decrease in the amount of protein substances in the blood plasma.

Other factors that may be important include a high intake of salt (which increases edema if fluid is avail-

able), a high intake of fluid (which increases edema if salt is available), and a warm environment.

In the kidney there are two opposed processes involved in the formation of urine. According to present beliefs the renal glomerulus is essentially a filter through which enormous quantities of protein-free filtrate pass into the tubules. In the tubules most of this is reabsorbed and the small remaining portion is excreted as urine. It is therefore apparent that the volume of urine may be raised by an increase in glomerular filtration, a decrease in tubular reabsorption, or both.

In congestive heart failure, the filtration pressure in the capillaries is increased by the rise in general pressure that characterizes heart failure, and probably also by the muscular inactivity that accompanies it. In addition, the capillary wall appears to be more permeable to water and crystalloids, and in many cases the colloid osmotic pressure of the plasma is decreased because some protein passes into the tissue spaces. The hypoproteinemia thus caused is increased at times by the loss of large quantities of albumin in the urine, by anorexia which prevents an adequate protein intake, and unfortunately by a low protein diet that is often deliberately but mistakenly prescribed by the physician.

It must be emphasized that the underlying heart failure should be treated as adequately as possible before specific measures for the removal of the edema are employed. Such treatment includes full therapeutic doses of digitalis, complete or partial bed rest, necessary sedatives to ensure adequate sleep and strict limitation of the fluid and salt intake. There are two important exceptions that should be noted to this general rule. If there is much fluid in one or both pleural cavities, sufficient to interfere with respiration, it should be removed at once by paracentesis. If the edema elsewhere is so marked as to result in danger or extreme discomfort, mercurial diuretics should be administered immediately, without awaiting the possible beneficial effect of digitalization.

DIURETICS. Xanthines. The Xanthines, or purines, that are of clinical value consist essentially of theophylline and theobromine and their derivatives. Theophylline even in small doses is apt to provoke nausea and vomiting within one or two days. Vomiting is less apt to occur, and the total diuretic effect is usually greater, if this drug is administered intermittently for periods of only two or three days at a time. Theophylline sodium acetate and theophylline ethylene diamine (amionophylline) are tolerated far better than is theophylline alone. Aminophylline is less potent, but in doses of $1\frac{1}{2}$ to 3 grains (0.1 to 0.2 Gm.) three or four times a day is sometimes effective in causing the disappearance of slight or moderate edema, or in preventing its reappearance.

Theobromine and its compounds are in general less powerful diuretics than theophylline but they are usually well tolerated in effective dosage and for this reason are often preferable. Theobromine with sodium salicylate (diuretin) is one of the mildest of all diuretics, is well tolerated by most patients, but must be given in large doses (40 to 60 grains; 2.6 to 4 Gm.). Even these quantities are somewhat ineffective. A more valuable preparation is theobromine calcium salicylate, or theocalcin, which contains about 48 per cent of theobromine. This is a potent diuretic, seldom causes unpleasant symptoms, and may be continued for many days if necessary.

The precise manner in which the xanthines cause diuresis is not fully known. Some authorities believe that it is chiefly by increasing the filtration through the renal glomerulus, while others ascribe it mainly to diminished reabsorption of water in the renal tubules.

Organic Mercurials. In general there can be no question that the mercurial diuretics are the most potent now available, although an occasional patient may respond better to some other. The best known, salyrgan, contains about 10 per cent of mercury, and is effective only when administered by intramuscular or intravenous injection or in rectal suppositories. The effectiveness of salyrgan is greatly increased if acid-producing salts are administered by mouth for three or four days prior to the injection. Ammonium chloride or ammonium nitrate are those most frequently employed for this purpose,

and doses of 45 to 120 grains a day (3 to 8 Gm.) are advocated.

Salyrgan is usually given in a dose of not more than 0.5 to 0.75 cc. at the first injection, in case there should be an idiosyncrasy or unusual reaction. Subsequent doses are usually 2 cc., and may be administered every third or fourth day if necessary. If it is to be given at such intervals, the ammonium salt may be continued at the desired level without intermission.

In the past decade most mercurials have been modified by the addition of theophylline, inasmuch as studies upon humans and animals have shown conclusively that the combination is far more potent than either alone.

Contraindications to the use of the mercurial diuretics are the presence of acute nephritis or of ulcerative colitis. There is little acceptable evidence that the kidneys are injured by the mercury, even after scores or hundreds of injections, and it should be emphasized that the mercurials, especially when combined with theophylline, are safe, highly effective, and usually retain their full potency over long periods of time.

Potassium Salts. It has long been known that in the human being and the experimental animal, sodium and potassium salts exert directly opposite effects upon the retention or excretion of fluid by the tissues. The greater the intake of potassium, the greater will be the excretion of water; conversely, a high intake of sodium will result in greater retention of water. Potassium salts have been found highly effective diuretics in many cases of congestive heart failure, and not infrequently prove more satisfactory than any other because they can be administered by mouth without discomfort, and may be continued over long periods of time without loss of effectiveness. Sodium chloride must be eliminated from the diet as completely as possible, since the objective is to replace sodium by potassium. If a saltless diet proves unpalatable, crystalline potassium chloride may be sprinkled on the food as freely as desired.

Urea. Urea has been in fairly general use as a diuretic agent in congestive heart failure for nearly twenty years. It must be given in large doses, usually from 30 to 60 grams (Grs. 450 to 900) a day; such doses, if tolerated, may be continued for months or years without harmful effects and with no decrease in diuretic potency. Grapefruit juice, cranberry juice, tomato juice, and syrup of acacia are especially recommended as vehicles, but even with these it may prove necessary to omit the medication for a few days at intervals in order to prevent nausea and vomiting.

It is less apt to cause distress if given very cold and immediately before or after a meal.

Urea is rapidly excreted by the kidney and carries with it large quantities of water; this mechanical diuresis is aided by diminished reabsorption in the renal tubules. The only important precaution that should be observed in its use is to make sure that it is being excreted.

Bismuth. Bismuth sodium tartrate has been found to exert an excellent and prolonged diuretic action in some cases of congestive heart failure, but has not been widely accepted, probably because of the more spectacular action of the mercurials in most cases. Bismuth is administered by intramuscular injection in doses of 0.030 Gm. (Gr. $\frac{1}{2}$), and may lead to diuresis that persists for from four to eighteen days; toxic effects are practically unknown.

"Angina Pectoris, Coronary Failure and Acute Myocardial Infarction." By Herman L. Blumgart, M. D.; Monroe J. Schlesinger, M. D.; and Paul M. Zoll, M. D., Boston. *Digest of Treatment*, March, 1941.

A detailed clinical and pathological study of 355 consecutive cases examined post mortem has been made with particular reference to the role of coronary occlusions and the collateral circulation in angina pectoris, coronary failure and acute myocardial infarction.

In this series, 12 of 45 hearts with acute myocardial infarction showed neither acute coronary thrombosis nor acute coronary occlusion. Conversely, 26 hearts showed

old complete occlusion without any myocardial infarction. Eleven additional hearts had old occlusions and fresh myocardial infarction but no fresh occlusions. Every patient suffering from angina pectoris without evidence of valvular disease or arterial hypertension has shown old complete occlusion of at least one major coronary artery at post mortem examination. In the majority of instances at least 2 of the 3 main coronary arteries had been occluded before the terminal illness. The apparent inconsistency between the presence of obstructive arterial lesions and the absence of significant pathological or clinical evidence of myocardial damage is explained by the demonstration of a collateral circulation which serves as a bypass in relation to the obstruction in each of these hearts.

The results of these studies indicate that disparities between the clinical diagnosis and the pathological condition in the heart are largely due to the fact that the terms "coronary thrombosis" and "coronary occlusion" refer to a pathological event which may give rise to various clinical syndromes or, indeed, to no clinical symptoms or signs at all. No characteristic syndrome appears to be necessarily associated with coronary arterial occlusion per se. In the past, the terms "coronary thrombosis" and "coronary occlusion" have been used by many clinicians to denote acute myocardial infarction. Our observations as well as those by others demonstrate, however, that acute myocardial infarction bears no necessary relation to the formation of thrombi or occlusions; either may occur in the absence of the other.

Our data are in accord with the current belief that cardiac pain is a manifestation of myocardial ischemia. In the three distinct syndromes, angina pectoris, coronary failure and acute myocardial infarction, the underlying mechanism seems to be a relative disproportion between the demands of the heart for blood and the supply of blood through the coronary arteries. The changes in the myocardium resulting from this disproportion depend solely on the extent and duration of the relative ischemia, not on the manner by which they are produced. If the duration of the ischemia, as in angina pectoris, is brief, no permanent myocardial damage may occur or only microscopic damage may occur or only microscopic foci of necrosis and fibrosis may result. Even with more prolonged attacks, as in coronary failure, if the demands on the myocardium are quickly reduced by rest and sedatives and the control of abnormal cardiac rhythm, no structural damage may result. In the instance of myocardial infarction the ischemia is of such prolonged duration that irreversible structural damage results, giving rise to the clinical signs of tissue destruction.

The absolute necessity for immediate and complete bed rest, sedation, reduction of excessively high cardiac rates and other measures designed to reduce the work of the heart in the presence of prolonged cardiac pain is obvious as a means of limiting the extent of myocardial necrosis or even preventing its development. Such a regimen also affords an opportunity for the development of a more adequate collateral circulation.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D., F. A. C. S.
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"Experimentelle Untersuchungen Über Dis Osteogenese Und Die Biochemie Des Fracturcallus (Experimental Investigation of Osteogenesis and the Biochemistry of Callus)." Svante Annersten. *Acta Chirurgica Scandinavica*, LXXXIV, Supplementum LX, 1940.

On the bases of the literature, animal experimentation, and clinical findings, the writer offers a detailed account of the causation of osteogenesis, and the chemistry and mechanism of ossification. He gives up hope of discovering the mechanism of the formation of callus on the

basis of morphology. He proves that bone can be formed in normal muscle by the injection of a non-specific, thermostable (up to 78 degrees centigrade) alcohol, ether, or beuzol extract of normal bone. This suggests that in the formation of callus, the osteogenetic substance as well as the calcium comes from local bone fragments.

The local chemical process of ossification of callus is discussed in detail. In the first few days after the fracture, there is a rapid increase in the phosphorus content of the surrounding musculature. After about seven days the calcium content rises more rapidly than the phosphorus, until the calcium-to-phosphorus ratio of somewhat more than twice that of adult bone is reached. The phosphorus content of blood plasma, unlike the calcium content, increases during callus formation.

The increase of insoluble carbonate comes at a later stage of callus ossification. Increase in bicarbonate appears early, perhaps with a beneficial local alkalizing effect. Hydrogen-ion determinations show that as callus ages, there is an appreciable increase in alkalinity. This alkalinity favors the deposition of tertiary calcium phosphate, and the activity of phosphatase which is increased in amount in callus.

"Transitory Synovitis of the Hip Joint in Children."
Solomon Rauch. *Am. J. of Diseases of Children*,
LIX, 1245, June, 1940.

This condition is described as a non-specific, relatively transient inflammation of the synovial membrane of the hip joint of a child. The onset may be acute or insidious, and, clinically, there are symptoms of pain, limp, or unwillingness to walk, and restriction of motion, especially in abduction, extension, and internal rotation. Laboratory evidence of infection, positive tuberculin reaction, and roentgenographic evidence of abnormality are all lacking. The treatment is conservative, and the prognosis for functional recovery excellent. Nearly all recover with two or more weeks in bed.

The author goes thoroughly into the previous literature on the subject as well as into multitudinous points of differential diagnosis. Forty conditions are listed resembling transitory synovitis of the hip joint, although tuberculous coxitis is given the most emphasis in the discussion.

Thirty-seven case histories are presented in tabular form and various correlations made from the facts. The duration of the condition was from seven to sixty days, with an average of thirty-two days.

"Influence of Fusion of the Spine on the Growth of the Vertebrae." S. L. Haas. *Archives of Surgery*,
XLI, 607, September, 1940.

In the growing spinal column what happens to growth when the spinous processes are fused?

With this question in mind, Haas studied the effects of spinal fusions in young dogs. In five instances the spinal fusions were performed by the Hibbs technique, and in twelve by the Albee technique. Modifications of these procedures were used in five other experimental animals.

It was found that the vertebrae continued to grow in length until the fusion became firm. The Hibbs operation, with its mass of soft callus, allowed greater growth than the Albee operation with its fixed graft, but growth continued even after the fusion was solid. However, because the elongation was greater in the anterior part of the bodies of the vertebrae than in the posterior part, a lordosis developed with compression of the intervertebral discs and premature ossification of the epiphyseal cartilaginous plates, particularly near the posterior portions of the bodies. Haas calls attention to the fact that these changes are much more pronounced in dogs than they are likely to be in humans, because the growth of the spinal column is quite rapid in the experimental animal, and is completed in a period of about nine months, while in the human the period of growth may extend from fifteen to twenty years. He offers the hope that the ability to produce deformities by localized fusions may help overcome fixed deformities in the opposite direction.

"Tuberculosis of the Knee. A Follow-up Investigation of Old Cases." R. C. Murray. *The British Medical Journal*, II, 10, July 6, 1940.

The author reports that in 2,922 cases of bone and joint tuberculosis, knee tuberculosis was found in 11 per cent of the cases. An investigation of 124 cases, picked at random from this 11 per cent, and all followed for at least five years, was made. Biopsy was not done on any of them, and the diagnosis was made purely on clinical evidence. Patients were divided into three groups and treated as follows: (1) Thirty-three with synovial involvement were treated conservatively with a Thomas splint, and 30 per cent had a full range of motion at the time of collecting the statistics. (2) Seventy patients with focal articular involvement were treated first conservatively and then by excision. The result in this group of cases were ankylosis in 45 per cent after arthrodesis and in 10 per cent after conservative care, and the highest mortality, 21 per cent. (3) Seven patients had extra-articular involvement. Five of them healed without invasion of the joint, but in two the joint was affected. One of the conclusions drawn is that "synovial tuberculosis progresses to definite bone changes in 45 per cent of the cases."

INTERNAL MEDICINE

Edited by Hugh Jeter, M. D., F. A. C. P., A. S. C. P.
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"The Diagnosis of Hemophilia." By Armand J. Quick, Ph.D., M.D., Associate Professor of Pharmacology, Marquette University School of Medicine, Milwaukee, Wis. *American Journal of the Medical Sciences*, Vol. 201, No. 4, April, 1941.

Dr. Quick, in this article, points out some of the problems connected with the diagnosis of hemophilia and as a result of certain observations has given a test which appears to be very specific and should be extremely helpful in all potential-type cases. The test is as follows:

By venipuncture 4.5 cc. of blood are drawn and mixed immediately with 0.5 cc. of 0.1 M sodium oxalate. The blood is divided into two equal portions. One-half is centrifuged for 5 minutes at a rate not over 1000 r.p.m., while the other half is subjected to a centrifugation of 3000 r.p.m. for five minutes in an Angle centrifuge. The clotting time of each specimen is tested as follows: In a small test tube, 0.1 cc. of plasma is mixed with 0.2 cc. of 0.0125 M calcium chloride. The tube is placed in a water bath kept at 37½° C., and tilted occasionally. The exact time required for the formation of a solid clot is recorded.

Solutions: Sodium oxalate 0.1 M: 1.34 gm. of sodium oxalate is dissolved in 100 cc. of distilled water. Calcium chloride 0.0125 M: 0.14 gm. of anhydrous calcium chloride and 0.42 gm. sodium chloride are dissolved in 100 cc. of distilled water.

The principle involved is the clotting time of recalcified plasma. The coagulation time of oxalated hemophilic plasma subjected to high centrifugation is markedly lower than slower centrifuged plasma. An outline for the differential diagnosis is given.

"The Diagnosis of Trichinosis by Skin and Precipitin Tests." By James B. McNaught, Rodney R. Beard and Jack D. Myers. *American Journal of Clinical Pathology*, Volume 11, Number 3, March, 1941, Page 195.

Observations in connection with acceptable methods of testing for trichinosis are given. A method is outlined for the preparation of the antigen, two types of skin reaction, the delayed and immediate are discussed and results given, and the accuracy of precipitin tests is reported.

35 of 36 persons with classic findings of trichinosis eventually gave positive skin reactions.

Incidence of trichinosis in San Francisco was found by the skin test to parallel reports obtained by examination of digested pieces of diaphragms from autopsy specimens (roughly 24 per cent). Eosinophilia is considered to be the most helpful sign indicating but not diagnosing trichinosis.

"Infectious Mononucleosis—A Diagnostic Problem."

By Samuel J. Werlin, M.D., Vera B. Dolgopel, M.D. and Morris E. Stern, M.D., New York. *American Journal of the Medical Sciences*, Volume 201, Number 4, Page 474, April, 1941.

The authors have given interesting data on distribution, clinical picture, laboratory findings and differential diagnosis in infectious mononucleosis. Three interesting cases are reported. The following interesting conclusions are made:

1. Patients with infectious mononucleosis often are severely ill. An extensive pharyngitis is usually present, often simulating diphtheria.
2. Cervical lymphadenopathy in early infectious mononucleosis may occasionally simulate mumps.
3. Early differentiation of infectious mononucleosis from diphtheria is desirable in order to avoid unnecessary administration of diphtheria antitoxin and sensitization of the patient to horse serum.
4. Cases of clinical diphtheria which do not respond to antitoxin must be investigated hematologically and serologically for the possibility of infectious mononucleosis.
5. Non-toxic diphtheria-like bacilli may be present in the nose and throat of patients with infectious mononucleosis.
6. In children the highest white blood counts are observed during the first week of illness, in adults in the second week of illness.
7. The heterophil antibody reaction was positive in ninety per cent of 21 patients of this series.
8. The titer of sera showing positive heterophil antibody reactions remains constant for months, if the sera are stored in an icebox. Positive sera may be used as control in performing the test with unknown sera.

UROLOGY

Edited by D. W. Branham, M. D.
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"Factors Contributing To the Development of Hypertension in Patients Suffering from Renal Disease."

By Edgar A. Hinds, Jr., M. D., and Howard H. Lander, M. D., Rochester, Minn., *A. M. A. Journal*, March, 1941.

Since Goldblatt and others have succeeded in producing hypertension in animals through the mechanism of renal ischemia there has been a revival of interest in the question of the renal factor in the production of essential hypertension.

The present report concerns the study of 264 patients suffering from various urological conditions who have returned to the clinic 10 or more years after their first visit. The average interval between first and last visit was fifteen years. The average age was 38.8 at the time of first visit. The urologic pathology were conditions such as hydronephrosis, renal stone, pyelonephritis, etc. All had blood pressure readings of not more than 145 systolic and 90 diastolic.

In a summary of the study it was noted that in patients with urologic disease who had a high normal pressure on their original visit, they were four to five times as likely to have hypertension subsequently as those who had a low normal pressure regardless of the type or extent of the urologic lesion. In a control series

of patients who had no urologic disease there was little difference in the subsequent development of hypertension as compared to those who had actual renal pathology.

Heredity plays some part in the development of hypertension as a study of the family history shows that hypertension is five times as probable in those who have a family history of hypertension as compared to those who have a negative family history.

Although the data is small a belief is engendered that the presence or absence of urologic disorder is of not much importance in determining whether hypertension will develop. Other factors, heredity, etc., probably play the chief role in determining why some patients who have a certain type of renal disease will develop high blood pressure.

Comment: One sees in the literature an increasing number of case reports concerned with the treatment of hypertension by surgical procedure and of these methods of treatment one of the most drastic is the removal of the unilaterally diseased kidney for the cure of high blood pressure. Undoubtedly we will begin to see much more of such surgery as enthusiasm goes beyond reasonable bounds with the inevitable result that useless and unnecessary operations will be performed in an ill-advised attempt to extend this type of treatment.

I have never been convinced that hypertension and urologic disease had much in common except in the rare exception of the contracted kidney resulting from past sclerotic changes. The removal of such kidneys may be of value in reducing blood pressure.

A few years ago I made a study of over two hundred cases of prostatic obstruction noting particularly the incidence of hypertension. It was my observation that the number of hypertensive cases in these ranged no higher than in a similar age group who have normal urinary tract function.

The kidney may play some part in the production of an occasional instance of hypertension but I believe, as do the authors, that in the majority, an inherent susceptibility to this disease is the more important factor.

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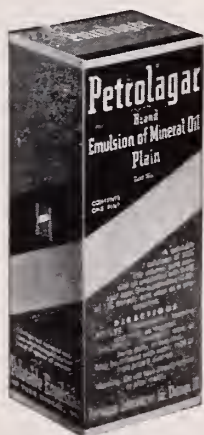
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COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Adair.....			
Alfalfa.....	H. E. Houston, Cherokee	L. T. Lancaster, Cherokee	Last Tues. Each 2nd Mo.
Atoka-Coal.....	J. B. Clark, Coalgate	J. S. Fulton, Atoka	
Beckham.....	H. K. Speed, Sayre	T. W. Pratt, Cheyenne	Second Tues, eve.
Blaine.....	L. R. Kirby, Okeene	W. F. Griffin, Watonga	
Bryan.....	J. T. Colwick, Durant	W. K. Haynie, Durant	Second Tues, eve.
Caddo.....	E. W. Hawkins, Carnegie	G. E. Haslam, Anadarko	
Canadian.....	P. F. Herod, El Reno	A. L. Johnson, El Reno	Subject to call
Carter.....	R. C. Sullivan, Ardmore	H. A. Higgins, Ardmore	
Cherokee.....	P. H. Medearis, Tahlequah	Isadore Dyer, Tahlequah	
Choctaw.....	C. H. Hale, Boswell	Floyd L. Waters, Hugo	
Cleveland.....	D. G. Willard, Norman	Phil Haddock, Norman	Thursday nights
Comanche.....	G. G. Downing, Lawton	Donald Angus, Lawton	
Cotton.....	Mollie Scism, Walters	R. M. Van Matre, Walters	Third Friday
Craig.....	Powell L. Hays, Vinita	Paul G. Sanger, Vinita	
Creek.....	P. K. Lewis, Sapulpa	Wm. P. Longmire, Jr., Sapulpa	
Custer.....	C. Doler, Clinton	W. C. Tisdal, Clinton	Third Tuesday
Garfield.....	V. R. Hamble, Enid	John R. Walker, Enid	4th Thursday
Garvin.....	Robert M. Alexander, Paoli	John R. Callaway, Pauls Valley	Wed. before 3rd Thur.
Grady.....	Turner Bynum, Chickasha	Roy E. Emanuel, Chickasha	3rd Thursday
Grant.....	I. V. Hardy, Medford	E. E. Lawson, Medford	
Greer.....	J. B. Lansden, Granite	J. B. Hollis, Mangum	
Harmon.....	Samuel W. Hopkins, Hollis	Wm. M. Yeagan, Hollis	1st Wednesday
Haskell.....	Wm. S. Carson, Keota	N. K. Williams, McCurtain	
Hughes.....	William L. Taylor, Holdenville	Imogene Mayfield, Holdenville	First Friday
Jackson.....	Raymond H. Fox, Altus	Willard D. Holt, Altus	Last Monday
Jefferson.....	D. B. Collins, Waurika	J. I. Hollingsworth, Waurika	
Kay.....	J. G. Ghormley, Blackwell	L. I. Wright, Blackwell	3rd Thursday
Kingfisher.....	F. C. Lattimore, Kingfisher	H. Violet Sturgeon, Hennessey	
Kiowa.....	J. M. Bonham, Hobart	J. L. Adams, Hobart	
Le Flore.....	G. R. Booth, Le Flore	Rush L. Wright, Poteau	
Lincoln.....	J. W. Adams, Chandler	C. W. Robertson, Chandler	First Wednesday
Logan.....	Wm. C. Miller, Guthrie	J. L. LeHew, Jr., Guthrie	Last Tuesday evening
Marshall.....	John L. Holland, Madill	J. F. York, Madill	
Mayes.....	S. C. Rutherford, Locust Grove	E. H. Werling, Pryor	
McClain.....	B. W. Slover, Blanchard	R. L. Royster, Purcell	
McCurtain.....	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow	4th Tues. eve.
McIntosh.....	D. E. Little, Eufaula	W. A. Tolleson, Eufaula	2nd Tuesday
Murray.....	P. V. Annadown, Sulphur	O. D. Thomas, Sulphur	
Muskogee.....	A. N. Earnest, Muskogee	S. D. Neely, Muskogee	1st & 3rd Monday
Noble.....	J. W. Francis, Perry	C. H. Cook, Perry	
Okfuskee.....	J. M. Pemberton, Okemah	L. J. Spickard, Okemah	2nd Monday
Oklahoma.....	George H. Garrison, Okla. City	W. W. Rucks, Jr., Okla. City	4th Tuesday
Okmulgee.....	I. W. Bollinger, Henryetta	M. D. Carnell, Okmulgee	2nd Monday
Osage.....	T. A. Ragan, Fairfax	George Hemphill, Pawhuska	2nd Monday
Ottawa.....	J. W. Craig, Miami	L. P. Hetherington, Miami	Last Thursday
Pawnee.....	M. L. Saddoris, Cleveland	Robert L. Browning, Pawnee	
Payne.....	A. B. Smith, Stillwater	Haskell Smith, Stillwater	3rd Thursday
Pittsburg.....	W. H. Kaiser, McAlester	Edw. D. Greenberger, McAlester	3rd Friday
Pontotoc.....	E. M. Gullatt, Ada	R. E. Cowling, Ada	1st Wednesday
Pottawatomie.....	R. M. Anderson, Shawnee	Clinton Gallaher, Shawnee	1st & 3rd Saturday
Pushmataha.....	E. S. Patterson, Antlers	D. W. Connally, Antlers	
Rogers.....	W. A. Howard, Chelsea	P. S. Anderson, Claremore	1st Monday
Seminole.....	Claude S. Chambers, Seminole	Mack I. Shanholtz, Wewoka	
Stephens.....	E. C. Lindley, Duncan	John K. Coker, Duncan	
Texas.....	L. G. Blackmer, Hooker	Johunny A. Blue, Guymon	Subject to call
Tillman.....	T. F. Spurgeon, Frederick	O. G. Bacon, Frederick	
Tulsa.....	J. C. Brogden, Tulsa	Roy L. Smith, Tulsa	2nd & 4th Mon. Eve.
Wagoner.....	H. K. Riddle, Coweta	S. R. Bates, Wagoner	
Washington-Nowata.....	S. A. Lang, Nowata	J. V. Athey, Bartlesville	2nd Wednesday
Washita.....	A. S. Neal, Cordell	James F. McMurry, Sentinel	
Woods.....	C. A. Royer, Alva	O. E. Templin, Alva	Last Wednesday
Woodward.....	Joe L. Duer, Woodward	C. W. Tedrowe, Woodward	

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NUMBER 6

Irradiation Therapy of Skin Cancers*

EDWARD D. GREENBERGER, M.D.

MCALESTER, OKLAHOMA

The literature on the dosage and technique of irradiation therapy of skin cancers was indefinite and confusing several years ago. All the authors reported unusually good results, but their technique of irradiation and their dosage often varied considerably from one another. The technique employed by each author was the result of his personal experience with that particular method and his available facilities for irradiation therapy. The dosage he administered was determined more or less empirically, by trial and error.

To control the increasing mortality from skin cancer, it became evident to many therapists that a more precise dosage and a more standardized technique of x-ray irradiation of skin cancers was advisable and necessary. All of you are acquainted with the marked changes that have occurred in irradiation therapy in the last few years, particularly in regard to dosage. We have gone through the transition from homeopathic dosage to the true cancerocidal dosage.

We are indebted to Dr. Quimby and the Memorial Hospital group for the impetus they gave us in determining the proper dosage required to destroy a cancerous lesion. Their numerous experiments showed that 10 S.E.D. (skin erythema units) were required to destroy a squamous cell carcinoma. The quality of the x-ray or radium irradiation was shown to be of little importance as long

as a lethal dose could be safely administered to the base of the carcinoma. The S.E.D. or lethal dose measured in r (roentgen) units, was shown to vary with the type of irradiation used and the size of the irradiated field.

Doctors J. Martin, Grier, Widmann, Mac Comb and others have done much to establish a more uniform working basis in x-ray irradiation therapy of the small skin cancers. These doctors popularized the use of the massive dosage, 3000 r to 6000 r, given in one to four treatments, using low or medium voltage, with little or no filtration. Their methods are simple, economical, and easily adopted by every dermatologist and radiologist in the large city or small town.

In the irradiation treatment of the superficial small size skin cancers, I have been guided by the technique advocated by Dr. Widmann.¹ I consider a lesion up to 2.5 cm. as small. When such lesions are less than .5 cm. above the normal skin, I administer 1000 r to 1500 r on alternate days for a total of 3000 r to 4500 r to the lesion, plus .5 to 1.0 cm. of the adjacent skin. When the lesion is more than .5 cm. above the skin, I administer a total of 4000 to 5500 r to the lesion and surrounding skin. The factors used are: 100 K.V., no filter or 1 Aluminum filter for the former type of lesion; 120 K.V., 1 to 2 Aluminum filter for the latter type lesion. The distance used is usually 25 cm. When a patient who lives many miles from the office presents himself with a small cancer, I usually use the massive single dosage

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(as much as 6000 r), as advocated by Dr. Mac Comb.²

Dr. Widmann and other therapists feel that a technique similar to the one described above can be applied to all sizes and cellular types of skin cancers. I feel that this rapid dosage technique should not be recommended for the treatment of indurated skin cancers measuring more than 2.5 to 3.0 cm. in diameter. The administration of a lethal dose of x-ray irradiation to a large skin cancer within a few days causes a severe local reaction; it often causes the normal irradiated skin surrounding the cancer to be severely damaged, so that healing is slow and painful.

This is especially true when this type of irradiation is applied to a large cancer located on the ear, nose, or on the lip. The possibility of recurrences or local dissemination of the irradiated skin cancer is much greater when one uses the rapid dosage technique than when one uses the fractional dosage technique. The fractional dosage technique permits the therapist to include a wider area of normal skin surrounding the cancer in his irradiated field, and it permits him to administer the maximum dosage to the cancer with safety.

I therefore believe that fractional dosage is important in the treatment of all large indurated skin cancers, and that the use of high voltage is the preferable technique. My factors are: 180 K.V. to 200 K.V., .5 mm. copper plus 1 Aluminum filter, 25 ma., 40 to 50 cm. distance. Prior to 1939, I considered 4000 r to be the maximum dosage for a field 4 to 5 cm. in diameter. After I heard Doctors Murphy and Hufford's paper on the treatment of advanced skin cancers at the Radiological meeting in Atlanta in 1939, I have applied 6000 r to several advanced skin cancers without trepidation, and the cures and cosmetic results in this small series of cases are most gratifying.

My technique in administering high voltage irradiation to advanced skin cancer varies somewhat with the size and location of the lesion, and the convenience of the patient. I usually administer 200 r to 300 r (measured in air) to the cancer and a wide area of adjacent normal tissue four times a week. When approximately 3500 r has been given, I cut my field of irradiation down to the size of the cancer proper. 200 r is applied daily for an additional total of 2000 r to 3000 r. This technique is similar to that which Doctors Murphy and Huffers used in their series.³

When a patient in poor economic circumstances, living many miles away, presents himself with an advanced skin cancer, I attempt to deliver the total dosage of 4500 r to 6000 r within a period of three weeks,

instead of five or six weeks. I administer about 300 r to the cancer and the large surrounding skin area, and on the same day, deliver another 300 r to the walled off cancer lesion. Treatments are given on alternate days (except Sunday). When 3000 r has been delivered to the normal surrounding skin, the rest of the required irradiation is delivered only to the palpable skin cancer. The cosmetic results from the use of this latter technique differs but little from the technique of the longer period of fractional dosage.

Whether the total dose to be delivered to the large skin cancer is 3500 r or 6000 r depends, in many instances, on the response of the tumor to irradiation. The longer fractional period gives one a better opportunity to observe the regression of the tumor and the irradiation effects, and enables the therapist to decide whether the maximum dosage should be pushed.

I agree with Dr. Widmann and others who state that a standard technique for x-ray irradiation of skin cancers is desirable and possible, particularly in the large cancer clinics. I believe that the x-ray treatment of small skin cancers can be standardized. And I believe that today we have the basis for standardizing the x-ray of the larger skin cancers. But I feel that the application of the science of irradiation to advanced skin cancers is still an art. The therapy of advanced skin cancer should continue to be individualized if we hope to continue to raise our percentage of cures and to improve our cosmetic results.

The recent literature on the treatment of skin cancer is rich with numerous examples of irradiated skin cancers that were changed from an apparent failure to a cure by supplementing deep x-ray irradiation with interstitial or contact radium therapy, or with massive low voltage irradiation, or by combining the irradiation methods with surgery.⁴⁻⁵ All of you can quote similar personal experiences. Most of the lantern slides that I will show will tend to emphasize the importance of individualizing the irradiation therapy of the larger skin cancers.

I'd like to stress that the phrase "individualization of therapy" likewise should be extended to include the convenience of application of the therapy to the particular patient. Most patients with advanced skin cancer must travel long distances to the cancer clinic or to the private therapist. Most of them are in very poor economic circumstances and are often unable to pay for their board while staying in the city during the three to six weeks required for their x-ray therapy. In treating such patients, the shortest and still effective course of therapy

should be administered, even though the reaction is more severe. Radium therapy should be given at the same time as the external irradiation, when possible, instead of prolonging the total treatment over a period of several weeks. And if the lesion can be cured by the application of radium in one or two days, this type of therapy should be used instead of the longer course of x-ray irradiation.

A discussion of the various techniques of radium irradiation in the treatment of skin cancer would carry me too far afield. I usually apply radium to skin cancer by the contact method rather than by the interstitial method. I usually use the higher filtration, 0.5 to 1.0 mm. platinum filter, and distance of 3 mm. to 10 mm. When the radium is applied in contact with the indurated skin cancer at a distance of 7 mm. to 10 mm., the lethal dose is usually 700 mg/hr. for a lesion one square cm., about 1200 mg/hr. for a lesion two square cm., etc. I use radium therapy instead of x-ray irradiation in treatment of skin cancers—

- 1—When the indurated elevated lesion is less than 3.0 cm. in diameter.
- 2—To supplement or complement the deep or medium voltage x-ray irradiation.
- 3—When the lesion is so situated that external irradiation is applied only with difficulty.
- 4—When it is more convenient for me and my patient to use radium irradiation rather than the long course of x-ray irradiation.

CONCLUSION

In the last decade, we have witnessed the transition in technique and dosage in the x-ray irradiation of skin cancers. The em-

pirical dosage has been replaced by a true lethal dosage, determined experimentally, and proved clinically.

The treatment of the small skin cancers, by x-ray irradiation can be standardized. We are indebted to Doctors Widmann and Mac Comb and others for their work along this line. Their technique can be easily and economically adopted by the dermatologist and radiologist in the smaller town.

The x-ray irradiation therapy of the advanced skin cancer is best treated with the high voltage technique, fractional dosage. A fairly good guide for the proper dosage and technique in the treatment of advanced skin cancer, as suggested in this paper, can be adopted in the majority of cases by most physicians. But, if we are to continue to increase our percentage of cures in advanced skin cancer, we must continue to individualize our therapy. Individualization should include not only combination of methods, when needed, as surgery, interstitial or contact radium, high and low voltage x-ray. It should also be applied to the convenience of the patient. This latter aspect of irradiation therapy of skin cancer can best be carried out by the therapist in private or group practice.

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Our Method of Care of Fractured Knee Cartilages*

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The time allowed necessitates the limitation of this paper to the consideration of fractured cartilages with varied damage to the adjacent lateral ligament: from no damage, up to that amount of damage which would make the procedure of choice include some reparative work on the offending liga-

ment. All cases of other pathological processes, such as cruciate ligament damage, loose bodies other than cartilagenous fragments, synovial membrane pathology, and calcification of lateral ligament (Pellegrini-Stieda) have been omitted. A study of 30 cases is presented in which the same procedure and care were followed.

It is felt that no matter how important

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the actual procedure is considered, the extreme and consistent care to the details of the pre- and post-operative care are of equal importance. The neglect of any factor will quickly and adversely affect the patient's well being and comfort. The patients deserve this attention and will send their friends where they are assured of good care and a minimum of pain.

We like a full 24 hours of skin preparation in which the extremity is widely shaved and tincture of merthiolate is applied followed by a sterile stockinet.

As to the anesthetics—we do not use spinal on either compensation patients or patients who for some reason do not desire it. We do not hesitate to use Avertin as a basal anesthesia and we find that many patients prefer it. Local anesthesia can be very successfully used and is necessary in the poor and questionable risks. A tourniquet is used on those cases to be operated on under general anesthesia.

The leg is painted with tincture of merthiolate, the foot and lower leg are draped in a sterile pillow case which is wrapped firmly against the foot with wide bandage. This lessening of bulk helps, as you will later see. The knee is allowed to bend so that the lower leg hangs over the end of the table. The table is raised so that the patient's foot can be placed in the operator's lap as the operator sits on a stool.

The line of incision is always drawn on the skin to prevent even slight misplacement of the incision. Ten per cent silver nitrate can be used the day before surgery, and the small black mark which results will not come off during the actual operative preparation; or green ink may be used at operation. A dot is made on the most medial point of the patella, and another made over the anterior border of the internal lateral ligament at the level of the upper surface of the tibia. This point is easily found by rotating the tibia with your legs and palpating the thickened course of the ligament as it rolls under the fingers. Now a crescent shaped line is drawn that starts just below the patella mark, downward, curving medially to become horizontal just above the tibial plateau to extend to, *never beyond*, the limiting line at the lateral ligament. The incision is carried to the joint capsule and the flap is sutured back with any heavy suture. This relieves the flesh from the sharp retractor points and leaves the assistant's hands free. The freedom from trauma is a very important point. The capsule is now entered with the same type of incision, but the entrance is made in the center and enlarged as needed either way, as far as desired, and with the advantage of direct vision.

To help enter the joint space and absolutely to prevent injury to the structures within the joint, two methods are of value. Novocaine solution or sterile saline may be injected with a needle and syringe into the joint space, and the space may be extended so that the flow of fluid notifies the operator and allows him to grasp the inner border with a thumb forcep and open the hole to extend the incision under direct vision. The excess fluid can be quickly aspirated with a suction. The other helpful method is to grasp the lining layer with two thumb forceps or allis forceps and lift exactly in the manner used by surgeons entering the peritoneal cavity. The lift pulls the structure away from the inner joint structures. A little carelessness on entering the joint may result in a poorly placed deep incision or some scratching of some structure such as a femoral condyle. This may not ruin a knee but will serve to give the patient a little more post-operative pain and swelling, which we always hope to avoid.

A head lamp facilitates the examination of the inside of the joint for other pathology, as well as making more sure the removal of the cartilage. If loose bodies are at all suspected, novocaine solution of saline can be used to flush them out and the excess can be removed by suction.

The cartilage is removed one-half at a time. *This is important.* The cartilage is cut downward and in half at somewhere near the middle of the incision, or through a fracture line, if it is conveniently placed. A heavy clamp is used to grasp the half to be removed, and an ordinary handle with a number 11 blade is used for the removal. We have tried all sorts of special knives and implements for this removal, but always return to the number 11 blade. The first half is removed and the bed inspected for remaining tags. This is helpful by rotating the patient's foot inward, bringing the anterior end of the cartilage into the field of vision. After this has been satisfactorily completed and inspected, the foot is rotated outward to bring the remaining half into view. This is then removed. We have even tried a tonsil snare for this posterior extension, as advocated by Dr. Girard of Dallas, but we feel that the number 11 blade still is the instrument of choice. After this is done and the bed inspected, we are ready for closure. The closure is done with the knee remaining bent to prevent accidental shortening of the joint capsule.

Stainless steel suture is our choice for capsule closure, but this is not used in compensation cases, as they occasionally claim trouble after the sutures are seen in x-rays.

Private patients never make this complaint. Fine silk or cotton is a splendid suture to be used throughout the entire procedure. The choice of material is very secondary to the main factor of careful and kindly approximation without tension. The kindness to the tissue during closure is important.

The average operating time for these cases has been 40 minutes. They can be done this fast without haste, which may be foolish and dangerous.

After completion of the procedure another very important factor presents itself: the dressing. We prefer, and always use, a very loose and bulky bandage of heavy gauze rolls and use no adhesive tape, which is frequently the cause of tightness. Tightness equals pain—needless pain. The patient is placed in bed with the knee slightly flexed over a very small pillow.

It is very important that the dressing be removed after 24 hours, and if there is any doubt about an increase of joint fluid, the fluid is aspirated under local anesthesia. This is important and does more to afford comfort than any medicine. The aspirating needle is inserted on the lateral side of the leg above the patella at the peak of the swelling. Half our cases are aspirated the first post-operative day and 20 per cent do not even call for pain medicine.

All these knees are dressed the second post-operative day: Fifteen per cent are aspirated and two-thirds do not ask for pain medicine. It is unusual to aspirate on the third post-operative day, but we do not hesitate to aspirate and dress loosely as long as the swelling persists.

The average time spent in the hospital has been 11 days. We do not hurry patients out, as the compensation cases are more completely controlled in a hospital.

Patients are allowed up on crutches at the time they leave the hospital, and they use them until a few days after they want to bear weight. Our average time on crutches has been three and a half weeks. Two of this series refused to bear weight until the crutches were taken away. This has its effect on the statistics. These two men also refused to return to work despite good knees.

Our average time loss from surgery to resumption of work has been seven weeks. The two men who did not return are excluded from this figure, as their time loss is not known.

I have not given you gentlemen a standard type paper which starts and stops with the operative procedure, or covers the field of etiology, pathology and symptoms, which have been thoroughly covered by countless excellent observers, but have tried to bring you some important and consistently neglected points that are usually taken for granted or ignored altogether. The satisfaction of the patient, and his response by sending you a similar case or two, will make it worth your while to watch the little points.

I have presented a method of care, which, if followed, will allow any average man to do these cases in 45 minutes or less, and have a very happy patient who will have a normal knee in two months or less, with which he can do any work up to, and including, football, basketball, or heavy labor.

Further Experience with Pervaginal X-Radiation in the Management of Carcinoma of the Cervix*

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In a recent article published in the Wisconsin State Medical Journal, Dr. A. W. Erskine of Cedar Rapids, Iowa, made the statement that in his opinion pervaginal x-ray therapy of cancer of the uterine cervix is superior to radium.

Dr. E. A. Merritt of Washington, D. C. states that with pervaginal x-ray therapy, one may expect to cure cancer of the cervix in stages I and II and get about twenty-five per cent cures in stage III, and that he has practically put his radium on the shelf.

These statements by men of such high standing in their profession must not be re-

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garded lightly, because they have had a large experience with both radium and pervaginal x-ray. There are undoubtedly many other men doing this type of work but with the limited amount of literature at my disposal I have unfortunately not read about them.

My experience with pervaginal x-ray is still too much in its infancy to warrant a statistical survey. However, since January 1938, I have treated fourteen cases of cancer of the cervix or at least cancers which originated in the cervix. Two of these were treated with radium, one of which died and the other is living. There remain twelve cases treated by x-ray alone. At the present writing five are dead and seven living. All the dead were stage IV cancers.

The stages of the living cases are as follows: stage I, two cases; stage II, two cases; stage III, one case; stage IV, two cases. Irrespective of stages, grades of the growth, or the length of survival following treatment, the mortality rate runs about forty-one per cent.

Irrespective of the length of survival, in stage I the mortality to date is zero with one grade I and one grade III. In stage II the mortality is zero, with two grade IV cases. In stage III the mortality is zero, with one grade III. Two stage IV cases are still living, making the mortality for stage IV seventy-one per cent. Here the grading is probably more difficult because of secondary infections, but five cases with biopsy were as follows: Epidermoid grade III, one case; squamous cell grade IV, one case; squamous cell grade III, one case; squamous cell grade II, one case.

The statements made by Dr. Merritt and Dr. Erskine as well as my own experience spur me on to further effort.

From my own work I have drawn certain conclusions which, of course, may change as the years go by. At present they are as follows: If the growth is limited to the cervix and the cervical canal is open and easily accessible, either x-ray or radium will cure the case. By radium I mean platinum filtered capsules or needles. If the cervical canal is not visible, accessible, and patulous, and the growth is not limited to the cervix, slow interstitial platinum needles might be effective, but I believe pervaginal x-ray is less dangerous and possibly more effective. I feel the same about those cases in which the cervix is destroyed and the cervical canal is not available for a radium tandem.

In other words, in the stage II and III cases it seems to me that more cases will be saved by intravaginal x-ray than by radium, with the possible exception of interstitial

slow needles in the hands of an expert surgeon-radiologist. By surgeon-radiologist I mean a man with enough experience in pelvic anatomy and spacial distribution of interstitial radium to enable him to place ten or twelve long radium needles in an effective pattern without puncturing one of the hollow viscera.

Men fulfilling this requirement are notoriously scarce and I do not believe that a radium colpostat without a cervico-uterine tandem will give sufficient depth does in the parametric to be cancerocidal, i.e. the spacial arrangement of radium as used by the general surgeon is not applicable in these advanced cases because the cervix is gone and the cervico-uterine canal is not available for tandem. Therefore the intravaginal x-radiation in the hands of a qualified radiologist is more efficient.

If the growth has destroyed the cervix, the uterine canal is inaccessible and by palpation the induration caused by the neoplasm is, e.g. in the anterior, left lateral and posterior fornix, three intravaginal applications of the Ferguson speculum should be used. Let us arbitrarily call the application to the anterior fornix, number I; the application to the left lateral fornix, number II, and the application to the posterior fornix, number III. In treating number I, the central ray of the deep therapy installation is directed toward the umbilicus by using the fourchette or perineal body as a fulcrum for the Ferguson speculum, and 300 r as measured in air is delivered. The next day, use the right vaginal introitus as a fulcrum and deliver 300 r as measured in air into the left lateral fornix. The next day, using the symphysis pubis as a fulcrum, deliver 300 r as measured in air to the posterior fornix. In each of the positions the longest lip of the Ferguson speculum is placed in such a manner that the region of the formed location of the destroyed cervix is included in the field. These treatments are continued daily in rotation in the order named in a clockwise direction until a total of at least 5000 r as measured in air have been delivered. I personally believe that in this manner 6000 r as measured in air could safely be delivered because the periphery of each field would receive much less than 6000 r and the central point representing the former presence of the cervix is small enough to recuperate following the application of the full 6000 r in air. However, to this date I have not exceeded 5100 r. All of these treatments require 200 kilovolts and 0.5 millimeter of copper and the distance on my equipment is about 42.5 centimeters. I failed to mention that the external series is given first.

Other analogous applications through the speculum are immediately perceived. For instance, if the cervix is destroyed, the cervical canal unavailable and the induration of the growth completely surrounds the site of the former location of cervix and its canal, four intravaginal applications of the copper filtered ray through the Ferguson speculum are used in the clockwise rotation

as described. And the treatments continued until at least 5000 r as measured in air have been delivered. The homogeneity of the irradiation in such cases seems to me to be superior to that of radium.

In all sincerity I must admit that the more one uses his own tools in his own office the more confidence he develops and the better his results.

Neuroblastoma With Special Reference to Its Roentgen Manifestations*

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The sympathetic nervous system may give rise to several tumors, whose benign or malignant character varies, depending on their embryonal development. Ewing divides these tumors into three types: (1) neurocytoma or neuroblastoma; (2) neuroma or ganglioma, and (3) chromaffin cell tumor or paraganglioma.

All these tumors are of the same embryologic origin as the medulla of the suprarenal gland and the adjacent sympathetic ganglia. The medulla of the suprarenal gland arises from the ectoderm of the primitive neural crest, from which two types of cells originate: (1) the stationary cells, which develop into the dorsal root ganglion cells, and (2) the migratory cells, from which the sympathetic ganglion cytons and the chromaffin cells of the adrenal medulla are derived. The undifferentiated migratory cells are sympathetic neuroblasts. They form the chief element of the highly malignant neurocytomas or neuroblastomas. The benign tumors are composed of more differentiated cells. The mature nerve cells and fibers are found in gangliomas, and the chromaffin cells in paragangliomas. Virchow suggested in 1864, that the nervous tissue was the substrate from which these tumors developed. It was Marchand, however, who in 1891 pointed out a resemblance between the structure of such tumors, and that of the developing sympathetic system. His studies indicated that the

"suprarenal sarcomas" were derived from neuroblasts.

Neuroblastomas may arise either in the adrenal medulla or in the immediate neighborhood. They develop most frequently in children under three years of age, and only rarely are they encountered beyond the age of 15 years. There have been several instances, where the disease was found in still-born infants. There are two clinical types of neuroblastoma, based on differences in distribution of metastases. In a small percentage of cases both types may be present simultaneously. The first syndrome caused by neuroblastomas was described by Pepper in 1901. It occurs in still-born and young infants. The tumor invades the liver and the regional lymphnodes, then the lungs, and late in the course of the disease the bones of the skull and other flat bones. The second type was described by Hutchinson in 1907, who after studying ten cases of so called "sarcoma of the suprarenal gland" in children, associated with metastases to the skull, defined the clinical syndrome as follows:

"In the majority of cases the first thing noticed was some swelling about the bones of the skull, which in several of them was ascribed to a fall or injury. Following or preceding this, proptosis of one or both eyes was observed. In two-thirds of the cases discoloration of the eyelid on one or both sides was reported, and in a few instances this was the first point to attract attention. Anemia is a striking feature in all the cases, the blood changes being those of a profound secondary ane-

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mia. Leukocytosis has not been recorded in any case. An abdominal tumor in one or the other loin was felt in only five cases. The progress of the disease in every instance has been rapid, and the younger the patient, the more rapid it appeared. Indications of increased intracranial pressure, such as torpor, intense optic neuritis and blindness may develop. The post mortem features are also very constant; in all these was found a sarcoma of the suprarenal, usually consisting of small round cells, situated on the left side in six, and on the right side in four of these cases. The most extensive metastases were found in the bones of the vault and base of the skull, producing swelling on the head and protrusion of the eyes observed during life. Metastases are also met with in the ribs, sternum, and vertebrae, but not apparently in the long bones, though these may not always have been carefully examined."

PATHOLOGY

Neuroblastomas arise usually in one of the suprarenal glands, although in several instances both suprarenals were invaded by the neoplastic tissue. In the series of cases reported by Lewis and Geschickter, three showed bilateral involvement. These authors found it difficult to determine in such cases, whether the tumor was bilateral from the onset of the disease, or whether metastases developed in the gland not at first involved. Occasionally the neuroblastomas may be associated with more mature tumors of the sympathetic nervous system, i.e., with gangliomas and paragangliomas as e.g. in the case reported by H. R. Wahl and P. E. Craig. The tumor may be solid or cystic; it is usually well encapsulated. The surface is nodular and the color varies from a light yellow or gray to a dark hemorrhagic hue. The histological structure of neuroblastomas has been well described by Wright, who states:

"The tumor is very cellular, resembling primitive migrating cells of the sympathetic nervous system, somewhat larger than a lymphocyte with a densely chromatic nucleus, and a narrow rim of cytoplasm. The matrix, in which the cells rest contains delicate fibrillae which do not take stain of connective tissue, collagen or neuroglia. They are probably primitive axis cylinders. The cells often assume a roughly circular formation about a bundle of fibrillae. These characteristic tumor "rosettes" are found in the primary tumor, but not usually in the metastases."

Lewis and Geschickter noticed the absence of "rosettes" in approximately one-third of the cases, which they have studied. This

rather high percentage, in which the "rosettes" cannot be demonstrated, accounts for the inaccuracy of the histological diagnosis made from biopses, especially when the examined tissue was obtained from a metastatic lesion.

ROENTGEN FINDINGS

The roentgenologic interest presented by neuroblastomas is due chiefly to the extensive skeletal metastases to the long and flat bones. On many occasions the disease became manifest clinically, only after bone metastases have developed. The metastatic lesion presents destructive and proliferative bone alterations. The osteoclastic foci vary in size from small rarefaction within the spongiosa or cortex, to large destructive areas, with pathological fractures. The multiple areas of rarefaction may become confluent, and lose their sharply defined contours. The bones then present a moth-eaten appearance. Associated with these destructive lesions are periosteal changes, described variously as "perpendicular striations," "spicules" and "whiskers." Roentgenologically these periosteal reactions resemble those encountered in Ewing's tumors, or osteogenic sarcomas. The periosteum is elevated, producing a fusiform thickening of the shaft. Frequently a complete interruption of the periosteum may be found, with subsequent spur formation, at both ends of the defective periosteum. Perpendicular arrangement of the newly formed bone spiculae is found very often, and we observed it in some of the involved long bones in all our cases. These spiculae are also present on the outer table of the cranial vault in some cases. Rypins explained the formation of bone spiculae as the result of a slow lifting of the periosteum due to infiltration by the tumor tissue which might have extended through the cortex from the lymphatics. He also quoted another explanation given by Greig, who suggested that an invasion of the bone from without, a decalcification by halisteresis or by the removal of the calcium as granules, the setting free of bone cells in a vascularity insuring a supra abundance of calcium, where bone changes have already a local excess of calcium, may be responsible for the perpendicular bone spiculae. In presence of intracranial metastases with increased intracranial pressure, a wide separation of the sutures occurs very frequently.

Although the clinical syndrome and the roentgen manifestations of neuroblastoma are quite typical, the correct diagnosis intra vitam may occasionally be difficult. It may then become necessary to differentiate this clinical entity from other diseases presenting a similar symptomatology. Among those, congenital multiple bone syphilis, leukemia,

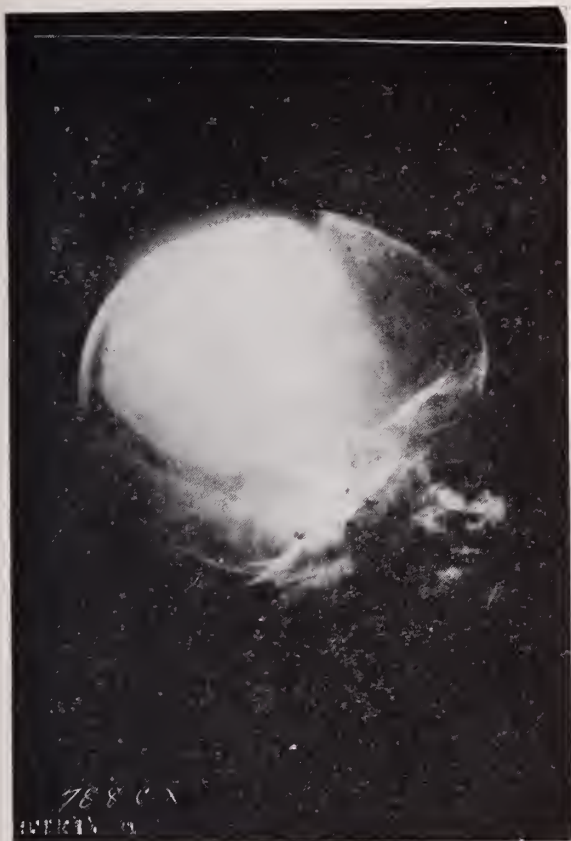


Figure 1. Metastatic lesions within the frontal bone; marked distention of the cranial sutures.

lymphosarcoma, chloroma, erythroblastosis and Ewing's tumor should be mentioned.

The insidious onset and frequently the first subjective symptoms and clinical findings referable to bone involvement, are not unlike those met with in congenital syphilis of the bone. The danger of a diagnostic error is especially great, when multiple bone lesions are observed. In one case of multiple bone syphilis which we had recently an opportunity to study, the bone changes resembled those found in neuroblastoma very closely. The lesions within the long bones were of destructive and proliferative character, the periosteum was elevated, in some areas interrupted, and several pathological fractures occurred in the course of the disease. Flat bones showed also a moth eaten appearance. The suggestion of neuroblastoma was even stronger because of mediastinal enlargement not inconsistent with mediastinal metastases. The positive Wassermann reaction and subsequent clinical course should however facilitate the differential diagnosis.

The differentiation of leukemia and lymphosarcoma, in which one may find a similar periosteal apposition along the shafts of the long bones, and small rarefactions within the spongiosa, is relatively easy; the blood picture is usually characteristic.

The similarity between Hutchison's type of neuroblastoma and the cranial chloroma may be very striking. Both occur in childhood; the subperiosteal swelling of the cranial bones is identical. When the intraorbital periosteum becomes involved, one finds a protrusion of the eye, swelling and discoloration of the eyelids and ectropion, greatly resembling neuroblastomas. Later in the course of the disease, metastases to other bones may develop. Chloroma is, however, practically always associated with leukemic blood pictures, whereas neuroblastomas are not accompanied by alteration of the white cells.

Greenthal and Epstein reported recently a case of neuroblastoma with a typical clinical picture, in which the biopsy specimens from the sternum and skull suggest a neoplasm involving the bone marrow with marked stimulation of hematopoiesis and particularly erythropoiesis. The pathological diagnosis was that of erythroblastomatosis until the autopsy, when the correct diagnosis of neuroblastoma was established.

In early stages of the disease, when only one bone is involved, the differentiation from Ewing's tumor may be difficult. Colville and Willis discussed the similarities presented by these different tumors, and reached a conclusion, that Ewing's tumor cannot be classified as a specific pathological entity, but may be of various pathological origin. A diagnosis of Ewing's tumor according to these authors is not justified without a careful complete autopsy.

RADIATION THERAPY

Irradiation of neuroblastoma has been tried by several authors, most of whom agree, that it has no effect on the progress of the disease. Hauser and Rypins were impressed by temporary response of these lesions to irradiation and suggested that if this method of treatment could be instituted early, the clinical course may become more favorable. We have treated two of our cases using similar factors as advocated in the literature, but found the results unsatisfactory.

REPORT OF CASES

Case 1. (No. 69096). J.M., white boy, 6 years of age, was first admitted July 1, 1933, complaining of pain in the right hip and leg. Five months prior to admission patient had nausea and vomiting, later followed by pain in the right hip and leg, resulting in inability to walk. Examination revealed a fairly well developed, actually ill child, with flexion contracture of the right hip, with extreme pain on motion. The scalp was covered with painless nodules, varying in size from an olive to an English walnut. On deep palpation over

the scalp numerous depressions could be elicited. The Hbg. was 43 (Sahli), R.B.C. 2,250,000, W.B.C. 6,300. Urine examination was negative.

Roentgenograms of the skeleton revealed marked destruction of the pelvis, the epiphyseal ends of both femora, and tibiae, dorsal and lumbar spine and ribs. There was a pathological fracture of the right femur at the level of the trochanter. There were numerous irregular areas of bone destruction of various sizes throughout the bones of the cranial vault. Periosteum along the shafts of both femora was elevated, in some areas spiculae perpendicular to the long axis of the bones were observed.

Patient was discharged from the hospital July 12, 1933, but returned shortly thereafter with increased symptoms and an apparent loss of sensation in both lower extremities. He grew weaker and expired due to extensive metastases.

On post mortem examination a tumor of the right suprarenal gland was found. The tumor 25 by 20 mm. in size was completely surrounded by a capsule, which stripped with difficulty. The surface was irregular, granular in appearance, while the tumor tissue was very compact, with pin point nodules and striae radiating from the center. There were numerous metastases to the skeleton.

Microscopic examination of the adrenal showed tumor with abundant protoplasma. In some areas this had the arrangement and staining characteristics of fibrils. In other areas it had the appearance of dense fibrous stroma. Scattered throughout were islands and an occasional strand of tumor cells, which showed considerable variation in size, shape, and staining characteristics. In some areas there was a tendency to rosette formation. Tumor cells within the adrenal gland tended to be large and some were multinucleated, while in the metastatic lesion, and in some areas within the gland itself, the cells were small, round or ovoid, and took a very dark staining.

Sections of the tumor from the skull, ribs, and vertebrae were all similar. There was a delicate, diffuse, pale staining stroma, many small blood spaces, and the tumor cells, although heterogeneously arranged, had a tendency to irregular grouping and in many areas appeared in rows. The cytoplasm for the most part was scanty in these areas and the nuclei tended to be small, but showed considerable variation in size, shape, and staining qualities.

Case 2. (No. 89843). I.F.K., white girl, four years of age, was admitted to the hospital December 26, 1936. In October, 1935, the parents noticed that the child was limping on the left leg. After several days the



Figure 2. Metastases to the pelvis and femora; periosteal reaction along the shaft of the involved segments of both femora.

walk had improved but a few months later became worse again. A tonsillectomy was performed and the child received treatment for "rheumatism." Since September the child was unable to walk because of pain in the left leg and weakness. Recently the parents noticed a painful swelling of the right arm. Examination revealed exophthalmus of both eyes; the cervical axillary and inguinal nodes were enlarged. Numerous discrete nodules were palpable on the scalp. There was marked tenderness on manipulation of the knees and elbows, and deep tenderness on pressure over the long bones. The temperature ranged from 102 to 103 degrees. The Hbg. was 15 per cent (Sahli), R.B.C. 1,190,000, W.B.C. 8,900.

Roentgenograms of the skeleton showed numerous small areas of bone destruction within both femora, upper thirds of both tibiae and also the right humerus. These rarefactions were observed within the spongiosa and cortex of the long bones. The periosteum along the involved shafts was thickened and elevated. The skull revealed a moth eaten appearance of the frontal and parietal bones. Several perpendicular bone spiculae arose from the outer table of the frontal bone. On repeated examination the cranial sutures became distended.

A biopsy of the tissue obtained on aspiration of a nodule on the scalp showed scattered colonies or islands of small moderately dark blue stained cells having a great variety of shapes and heterogeneously arranged. There appeared to be no stroma and the cytoplasm was not demonstrable. Microscopic interpretation was as follows: "This tumor falls into the group of small round cell sarcoma, and with the clinical findings, the diagnosis of neuroblastoma is reasonably certain."

Patient received a series of roentgen treatments, after which she was discharged from the hospital. She expired shortly after her return home.

Case 3. (No. 97,389). E.L.W., white girl, 5 years of age was admitted July 1, 1937. Patient had been ill for three months prior to admission, complaining of weakness, loss of appetite and pain in the left chest and both legs. One month prior to admission several nodes were palpable on the scalp, one of which was incised by the attending physician. Since that time there has been continuous drainage from the operative wound.

On physical examination a fluctuating mass was palpable in the right fronto-parietal region and a similar tumor on the right

parietal prominence. Discrete, firm, elastic, non-tender, movable nodes were palpable along the suboccipital and postauricular region. Similar nodes were distributed on both sides of the neck. There was a venous enlargement over the temporal and frontal regions, bilateral exophthalmus and edema of both upper eyelids. The abdomen was distended. A large mass extending from the right costal margin beyond the midline and downward below the umbilicus was palpated. The blood examination showed a marked secondary anemia without an elevation of the white cells.

Roentgenograms of the skeleton revealed marked distention of the cranial sutures. There were several areas of rarefaction within the proximal third of the shaft of the right humerus, with periosteal elevation along the shaft. Similar changes were encountered within the left humerus, both femora, tibiae and fibulae.

A biopsy of one of the cervical nodes showed that the tissue consisted almost entirely of a very poorly differentiated embryonal type of tumor. The cells were for the most part very irregular with dark staining nuclei, which almost completely occupied the entire cell. There was no definite arrangement, but a tendency to grow in sheets and masses and in some areas there was a small amount of stroma. In some areas the cells were grouped together in compact dark staining masses. The cells resembled in some respects small lymphocytes. Some of the cells were larger and did not stain very intensely. Diagnosis of neuroblastoma was made.

The patient was discharged from the hospital and expired a few weeks later.

Case 4. (No. 105529). R.B.D., white boy, two years of age, was admitted April 8, 1940. Early that year the parents noticed a rapidly increasing swelling of the abdomen. The child lost weight and grew weaker progressively. On examination a large mass filling the entire abdomen was found. The tumor was firm and slightly tender. The Hgb. was 66 per cent (Sahli), R.B.C. 3,860,000, W.B.C. 10,600.

Roentgenograms of the abdomen demonstrated a large soft tissue mass in the right abdomen; the right kidney could not be discerned. A retrograde pyelogram showed a marked displacement of the right ureter beyond the midline; the pelvis and calices were filled, but flattened by extrinsic pressure on the kidney. Films of the skeleton revealed two round areas of destruction within the bones of the cranial vault, and a moth eaten appearance of the proximal fourth of the shaft of the right humerus, with periosteal reaction along the shaft. A biopsy obtained



Figure 3. Destructive lesions within the distal metaphysis of the femur; the periosteum is elevated; periosteal lipping and perpendicular spiculae, resembling osteogenic sarcoma are noticeable.



Figure 4. Roentgenogram of the specimen of the involved bones of the skull, femur, and rib.

from one of the cranial nodules showed tumor tissue. The cells were fairly uniform in size; the hyperchromic polyhedral cells had a small nucleus. Numerous small blood vessels were present. In many areas there was a definite pseudo-rosette arrangement of the tumor cells. In addition many small fibrils were interspersed among the tumor cells. The pathological diagnosis was neuroblastoma.

The patient was given a series of roentgen

treatments, but failed to improve, and was discharged from the hospital May 14, 1940.

SUMMARY

1. Four cases of neuroblastoma (Hutchinson's type) have been reported.

2. These tumors represent a highly malignant variant of neoplasms arising from the sympathetic nervous system, and are associated with extensive skeletal metastases.

3. The roentgen appearance of these metastases has been found to be quite characteristic, although in the differentiation several other pathological conditions may have to be considered. These have been briefly discussed.

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Giant Cell Tumor with Malignant Change*

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Benign giant cell tumor is a disease of adults and differs from solitary bone cysts,

to which it is closely related, in that it has a shorter duration of symptoms, a greater tendency to progress and is invariably associated with an epiphysis where osteogenesis via cartilage occurs.¹ Nearly half or all

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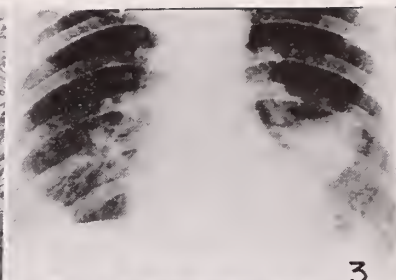
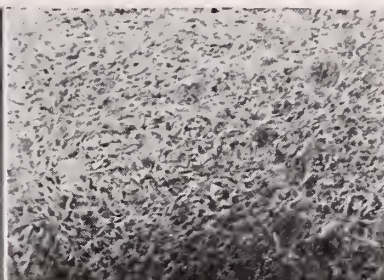


Figure 1. Epiphysis of lower end of femur 17 years after curettage and upper end of fibula one year post operative. There has been no recurrence in either site.

Figure 2. Tissue removed from the fibula. There are many foreign-body type giant cells typical of those seen in benign giant cell tumors and also spindle shaped tumor cells with large nuclei.

Figure 3. Roentgenogram of chest nine months after removal of tumor from the fibula which was thought to have been a giant cell tumor.

Figure 4. The first metastasis to the soft tissues was on the right side of the neck, the posterior surface.

Figure 5. Necrotic tissue from the neck tumor. This tumor recurred rapidly after surgical removal and the recurrence did not respond to large doses of deep x-ray.



3.

4.

5.

cases of giant cell tumor are in the third decade of life. The most common sites are in the epiphysis of the lower end of the femur and radius and the upper part of the tibia.

Geschickter states that, "The usual clinical history is a sequence of trauma, pain, tumor and fracture extending over a period of from two to fourteen months." Roentgenograms reveal the bone destructive character. The gross specimen is usually hemorrhagic and may be any color from red to black. The pathological findings are very characteristic and will be mentioned later.

The question of etiology is yet unsettled. Mallory and Codman² are of the opinion that it is a repair process following intra-osseous hemorrhagic due to rupture of nutrient vessels. The opponents of this opinion insist that giant cell tumors are true blastomata.

TREATMENT

The most frequently used method is curettage, with a subsequent swabbing with phenol and alcohol. During recent years roentgen ray therapy is replacing surgical treatment in many clinics.³ The very protracted type of deep x-ray therapy as used in some types of malignancy is not indicated as it causes the lesion to increase in size. In giant cell tumor of the spine and skull, x-ray therapy is the only treatment.

In recurrences following inadequately curetted lesions, x-ray is of questionable value. In such cases it is best to curette again or to do an amputation. Amputation is often nec-

essary when suppurative osteomyelitis follows biopsy or curettage.

PROGNOSIS

Herendelen³ states that "Twenty-five per cent of all giant cell tumors which have been curetted, ultimately recur, and of these recurrent tumors not more than fifty per cent are cured by subsequent curettage or radiation therapy."

MALIGNANT TRANSFORMATION

The question as to whether or not a giant cell tumor may become malignant and metastasize to the lungs is yet unsettled. Geschickter and Copeland do not believe that giant cell tumors ever metastasize.⁴ They are of the opinion that all such metastasis are from osteogenic sarcoma. The authors are of the opinion that the ability to develop a benign tumor carries with it the potentiality of malignant tumors. In this case the appearance of a malignant bone tumor in an individual who has previously had a benign bone tumor and the malignant tumor showing some cellular structures that were present in the benign tumor.

CASE HISTORY

Mrs. S., aged 46, developed a painful tumor of the lower right femur seventeen years ago. This was curetted and the tissue reported as a benign giant cell tumor. One year ago she again noticed a painful tumor just below the right knee. A roentgenogram showed a destructive lesion at the epiphysis of the upper end of fibula. This was curetted and reported as a be-

nign giant cell tumor. Nine months after this operation she noticed a large, rapidly growing tumor on the back of the neck. This tumor was removed surgically and the tissue studied. The tumor recurred within a month and she developed a cough and noticed an increasing sense of weakness. Roentgenogram of chest revealed an egg sized tumor in the left lung and a smaller tumor in the right lung. It was then thought best to give a deep x-ray therapy to the neck and chest. She was given treatment daily for one month. The tumor on the neck and in the lungs was somewhat reduced in size but it was evident that the tissue was not radio sensitive. She did well for two months then developed multiple metastasis with no less than twelve tumor masses in the soft tissues throughout the body. She is now moribund and taking snake venom.

HISTOPATHOLOGY

Microscopic examination of several sections from different parts of the tumor from the fibula and the neck shows a very proliferating type of tumor growth composed for the most part of spindle cells without any special type of arrangement. The growth is somewhat similar to that of connective tissue as far as arrangement is concerned. There are numerous blood vessels and blood spaces throughout all the sections. The growth is rather compact and in many parts there is evidence of pressure necrosis.

The nuclei of the cells are large and there are numerous mitotic figures, and there are also pleomorphic forms. In many areas scattered throughout some of the sections there are numerous multi-nucleated giant cells. These are of the foreign-body type and typical of those found in benign giant cell tumors. There is considerable hemorrhage in some places in which the blood is extravasated freely throughout the tumor growth particularly in the region adjacent to the giant cells. In practically all places where giant cells are found, predominating stroma is that of tumor growth. There is little differentiation of the tumor cells. They are, for the most part, rather uniform in size with the exception of the nuclei and are

growing in very dense masses throughout. Many of the nuclei show vacuolations. Some nuclei are dark staining and others pale. Considerable fat is mixed with the tumor growth in various areas.

In some of the sections made from the parts of the tumor there is a predominance of normal appearing dense connective tissue, but throughout these are found numerous scattered individual tumor cells in which cytoplasm is quite abundant. The nuclei of these cells is very wild appearing, varying greatly in size as well as shape. There is a slight disposition in the neighborhood of many of these cells for deposition of dark purple staining material which is apparently bone. In one part of the tumor growth there is a rather thick layer of fibrous and necrotic material in which there are numerous leukocytes. In none of these sections is it possible to demonstrate any degree of bone formation particularly in the nature of spicules. In view of the marked proliferating tendency of this tumor, the tendency to the bone formation of individual cells in some places and with the marked variation in size and shape of the cells, this tumor is undoubtedly malignant. The diagnosis is osteogenic sarcoma sclerosing type.

SUMMARY

A case of malignant osteogenic sarcoma with metastasis is reported sixteen years following a benign giant cell tumor. The metastatic tumor contained giant cells similar to those in the benign tumor. This implies a malignant transformation or the ability of a tissue to develop both malignant and benign tumors with some cellular structures in common. X-ray therapy is of value in benign giant cell tumors, but of little or no value in osteogenic sarcoma with metastasis.

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• THE PRESIDENT'S PAGE •

Our 49th Annual Convention marked another outstanding year of accomplishments in organized medicine in Oklahoma. I have attended other state meetings this year and have derived much valuable information, and have thoroughly enjoyed their programs together with the fine friendly relationship. I seem to have found a more fraternal spirit constantly developing.

Each organization I have visited has its pet worry the same as we have. Much time and effort is expended in correction of these troubles. The primary effort in each instance is directed towards giving better and more intelligent service to those we serve and to improve our profession.

I have found the same patriotic spirit prevailing in other states that exists in our own, and members of our profession wherever they are found are not only ready but anxious to lend every effort towards the support of our local and Government institutions.

We have a right to feel proud of the accomplishments we have made but we must remember that accomplishments count for little unless they are maintained, and this can only be done if we are thoroughly interested in the future of our profession.

Finis. *Beving*

President.

EDITORIALS

FIRST AID

Traumatic Surgery is the art of the preservation of life, limb and normal contour of the injured person and is being given very special attention by many of our surgeons. Skill is being gradually developed along this line and the results are being obtained today that 25 years ago were impossible.

In years gone by these cases very largely came in connection with industry, and special arrangements were made for their primary care at our industrial plants, but today every physician even in the most rural districts is called upon to give first-aid, and but few seem to feel sufficiently interested to prepare themselves to render this service proficiently. It may be that they feel that the care of the seriously injured is work for the experienced surgeon, and in their haste to place the case in his hands, they overlook some of the very necessary primary measures which can only be accomplished at the line and the results are being obtained transported.

Control of hemorrhage, immobilization of fracture, sterile dressing of open wounds and treatment of shock must be attended to at once, and both mortality and morbidity are to a considerable extent in adverse proportion to the skill and judgement with which these measures are accomplished.

Our high way first-aid stations are a step in the right direction, and in most instances the personnel of these stations is equipped by training and material to render intelligent care. They do not have at hand opiates to relieve pain, consequently they do all the other things to make the injured person as comfortable as possible, and this tends to good service as it is far better to relieve the pain resulting from a fracture by proper immobilization than by the use of morphine, and the recovery period will be decidedly shortened.

Neither do they suture wounds, which is far better than doing a suture operation poorly with resulting tendon or nerve injury or facial disfigurement. The preparation of wounds for suture must be carried out with the most meticulous technic as to asepsis and proper suture material. The use of face masks and, of course, sterile gloves is necessary and strong antiseptics cannot take their place.

Let's all give more thoughtful attention to first-aid. It is not a minor procedure, as so much depends upon this service as to the ultimate disability or disfigurement resulting.

DEAR EDITOR:

I have just read your comment on Lieut. Col. John H. Schaefer's statement. I admit there is no organization as large and powerful as the medical profession that would be behind a program 100 per cent. Yet, I agree with Col. Schaefer in reference to calling a spade a spade. This spade has been referred to all too softly as a small tool for tilling the soil.

If Oklahoma County represents a cross section of Oklahoma, and Oklahoma represents a cross section of the United States, then I must say not 75 per cent of the doctors are behind this program.

The Adjutant of the Headquarters of the Second Military Area informed me that at least 25 per cent of all Lieutenants of the medical department called to Active Duty had resigned, while *only 15 officers from all other branches of the service*, which amounts to over 1,200, *had tendered their resignation.*

In the organization of the Army there is about one Medical Officer to every 25 of the line. It must not be forgotten that the line officers represent every business and profession. Yet they did not consider themselves too indispensable to their community not to aid this great Defense Program. Many of them had as many dependents and obligations as any of the Medical Officers who resigned. These line officers considered, since they were allowed to attend our schools and colleges and obtain a subsistence and livelihood for themselves and families, they owed it to their country to aid in this great program. Their Active Duty training has been a two weeks paid vacation each year. They owed enough to their country to prepare to defend her to the last if necessary. They have taken their commission seriously, and when they read—"To all who shall see these presents, Greeting: Know Ye that reposing special trust and confidence in the patriotism, valor, fidelity and abilities of —(name)—, appoint him Officer of the line." Perhaps this was overlooked by the Medical Officer who has resigned.

We speak of strikes and strikers in great scorn and disgust, but we do not consider the Officer of the Medical Department who resigns after enjoying all the privileges of being a free American and what it has given him.

Mr. Editor, is it because these doctors think they are little tin gods, too good to defend their country, or have several of their competitors answered the call of their country, leaving behind a lucrative practice for those who stay at home? Or is it due to a lack of intestinal fortitude?

Yes, let every doctor examine himself, go to his history book and see how many doctors fought and even died on the battlefield that this Nation, Our Country, might live and give them and their children the blessings and privileges they now enjoy.

S. F. WILDMAN, M.D.

AN APPRECIATION

When Dr. L. S. Willour declined to be considered as a candidate for re-election for Secretary-Treasurer of the Association, he thereby voluntarily terminated what is probably a record length of service in the House of Delegates, as well as his

service as Secretary-Treasurer for the past several years. The best testimonial as to his service as Secretary-Treasurer is the obvious excellent state of affairs of the Association in general and of his office in particular, as he turns it over to his worthy successor, in comparison with the conditions at the beginning of his tenure. This is easy to understand by those close enough to him to appreciate fully the forcefulness of his character, the zeal with which he has applied himself to the execution of his duties and his constant faithfulness to the best interests of organized medicine in Oklahoma.

These words merely place in the permanent records of the Association what all full well appreciate and understand. It is given to but few in the progress of organized medicine in Oklahoma to leave so marked an impression for the better. Time will only serve to enhance his stature as a long and faithful servant in the cause of better medicine and to deepen the appreciation of his works.

To those who might question the propriety of these remarks let it be said that this was done by common consent of a large number of his friends who thought it best to override his editorial prerogatives in the matter.



RIGHT: Hess Infant incubator. ABOVE: Hess incubator with Hess infant oxygen therapy unit in position for oxygen administration.

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COCHRAN, R. L.	<i>Caddo</i>
COKER, B. B.	<i>Durant</i>
COLWICK, J. T.	<i>Durant</i>
COLWICK, O. J.	<i>Durant</i>
DICKEY, R. P.	<i>Caddo</i>
DUEWALL, R. H.	<i>Fort Sill</i>
FLYTHE, ALLEN G.	<i>Durant</i>
*FUSTON, H. B.	<i>Bokchito</i>
HAYNIE, JOHN A.	<i>Durant</i>
HAYNIE, W. KEILLER	<i>Durant</i>
HYDE, WILLIAM A.	<i>Durant</i>
McCALIB, D. C.	<i>Colbert</i>
MOORE, CHARLES F.	<i>Durant</i>
PRICE, CHARLES G.	<i>Durant</i>
RUSHING, G. M.	<i>Durant</i>
SAWYER, R. E.	<i>Durant</i>
SCOTT, GEORGE WARREN	<i>Tishomingo</i>
TONEY, S. M.	<i>Bennington</i>
WANN, C. E. (honorary)	<i>Albany</i>
WELLS, A. J.	<i>Calera</i>
WHARTON, J. T.	<i>Durant</i>

*Died February 22, 1941.

CADDO

ANDERSON, P. H.	<i>Anadarko</i>
BENWARD, JOHN H.	<i>Carnegie</i>
CAMPBELL, GEORGE C.	<i>Anadarko</i>
COOK, ODIS A.	<i>Anadarko</i>

COOK, EDWARD T., JR.	<i>Anadarko</i>
DIXON, W. L.	<i>Cement</i>
HASLAM, G. E.	<i>Anadarko</i>
HAWKINS, E. W.	<i>Carnegie</i>
HAWN, W. T.	<i>Binger</i>
HENKE, J. R.	<i>Hydro</i>
JOHNSTON, R. E.	<i>Anadarko</i>
KERLEY, W. W.	<i>Anadarko</i>
McCLURE, P. L.	<i>Fort Cobb</i>
McMILLAN, C. B.	<i>Gracemont</i>
MILES, J. B.	<i>Anadarko</i>
PATTERSON, FRED L.	<i>Carnegie</i>
PUTNAM, W. B.	<i>Carnegie</i>
ROGERS, F. W.	<i>Carnegie</i>
STOKES, LOWELL	<i>Anadarko</i>
SULLIVAN, CLARENCE B.	<i>Carnegie</i>
TAYLOR, ALBERT H.	<i>Anadarko</i>
WILLIAMS, R. W.	<i>Anadarko</i>

CANADIAN

ADDERHOLD, THOMAS M. (honorary)	<i>El Reno</i>
BROWN, HADLEY C.	<i>El Reno</i>
CLARK, FRED H.	<i>El Reno</i>
DEVER, HARVEY K.	<i>El Reno</i>
GOODMAN, GEORGE LEROY	<i>Yukon</i>
HEROD, PHILIP F.	<i>El Reno</i>
JOHNSON, ALPHA L.	<i>El Reno</i>
LAWTON, W. P.	<i>El Reno</i>
MYERS, PIRL B.	<i>El Reno</i>
PHELPS, JOSEPH T.	<i>El Reno</i>
PHELPS, MALCOM E.	<i>El Reno</i>
RICHARDSON, D. P.	<i>Union City</i>
RHLEY, JAMES T.	<i>El Reno</i>

CARTER

BARKER, E. R.	<i>Haldton</i>
BOADWAY, F. W.	<i>Ardmore</i>
CANTRELL, D. E., JR.	<i>Haldton</i>
CANTRELL, D. E., SR.	<i>Haldton</i>
CANTRELL, EMMA JEAN	<i>Haldton</i>
COX, J. L.	<i>Ardmore</i>
GORDON, J. M.	<i>Ardmore</i>
HARDY, WALTER	<i>Ardmore</i>
HATHAWAY, W. G.	<i>Lone Grove</i>
HIGGINS, H. A.	<i>Ardmore</i>
JACKSON, T. J.	<i>Ardmore</i>
JOHNSON, C. A.	<i>Wilson</i>
JOHNSON, WALTER	<i>Ardmore</i>
KETCHERSID, J. W.	<i>Countyline</i>
LOONEY, M. D.	<i>Marietta</i>
MEAD, W. W.	<i>Ardmore</i>
MOTE, W. R.	<i>Ardmore</i>
MOXLEY, J. N.	<i>Ardmore</i>
POLLOCK, JOHN R.	<i>Ardmore</i>
SAIN, W. C.	<i>Ardmore</i>
SMITH, JAMES	<i>4300 Cambridge, El Paso, Texas</i>
STONE, S. N., JR.	<i>Ardmore</i>
SULLIVAN, R. C.	<i>Ardmore</i>
VEAZEY, J. HOBSON	<i>Ardmore</i>
VEAZEY, LYMAN C.	<i>Ardmore</i>
VON KELLER, F. P.	<i>Ardmore</i>

CHEROKEE

ALLISON, J. S.	<i>Tahlequah</i>
BAINES, SWARTZ	<i>Tahlequah</i>
DEUTSCH, HARRY L.	<i>Stilwell</i>
DYER, ISADORE	<i>Tahlequah</i>
GRAY, JAMES KARADINE	<i>Tahlequah</i>

MASTERS, H. A.	Tahlequah
MATHEWS, GRADY F.	State Health Dept., Okla. City
McINTOSH, R. K., JR.	Tahlequah
MEDEARIS, P. H.	Tahlequah
NEWLIN, WILLIAM H.	Sallisaw

CHOCTAW

GEE, ROBERT L.	Hugo
HALE, C. H.	Boswell
JOHNSON, E. A.	Hugo
WATERS, FLOYD L.	8500 E. Colfax, Denver, Colo.

CLEVELAND

ATKINS, W. H.	Norman
BALLARD, RAY H.	Norman
BERRY, CURTIS	Norman
BOBO, C. S. (honorary)	Norman
BOYD, THOMAS M. (honorary)	Norman
BRAKE, CHARLES A.	Norman
BUFFINGTON, F. C.	Norman
CARROLL, W. B.	Norman
FOWLER, W. A.	Norman
GASTINEAU, F. T.	Norman
GRIFFIN, D. W.	Norman
HADDOCK, J. L.	Norman
HADDOCK, PHIL	Norman
HOOD, J. O.	Camp Barkeley, Abilene, Texas
HOWELL, O. E.	Norman
LAMBERT, J. B.	Lexington
MAYFIELD, W. T.	Norman
MERRITT, IVA S.	Norman
NIELSEN, GERTRUDE	Norman
PROSSER, MOORMAN P.	Norman
RAYBURN, CHARLES R.	Norman
REICHERT, R. J.	Moore
RIEGER, J. A.	Norman
SCHMIDT, ELEANORA	Norman
STEEN, C. T.	Norman
STEPHENS, E. F.	Norman
WICKHAM, M. M.	Norman
WILEY, GEORGE A.	Norman
WILLARD, D. G.	Norman

COMANCHE

ANGUS, DONALD A.	Lawton
ANGUS, HOWARD	Lawton
ANTONY, JOSEPH T.	Lawton
BARBER, GEORGE S.	Lawton
DOWNING, GERALD G.	Lawton
DUNLAP, ERNEST B.	Lawton
FERGUSON, LAWRENCE W.	Lawton
FOX, FRED T.	Lawton
HAMMOND, FRED W.	Lawton
HATHAWAY, EUEL P.	Lawton
JOYCE, CHARLES W.	Fletcher
KNEE, LOREN C.	Lawton
LUTNER, THOMAS R.	Lawton
MARTIN, CHARLES M.	Elgin
PARSONS, O. L.	Lawton

COTTON

BAKER, G. W.	Walters
CALVERT, HOWARD A.	Walters
HOLSTEAD, A. B.	Temple
JONES, M. A.	Walters
SCISM, MOLLIE	Walters
TALLANT, GEORGE A.	Walters
VAN MATRE, REBER M.	Walters

CRAIG

ADAMS, F. M.	Vinita
BAGBY, LOUIS	Vinita
BRADSHAW, J. O.	Welch
DARROUGH, J. B.	Vinita
HAYS, P. L.	Vinita
HERRON, A. W.	Vinita
LEHMER, ELIZABETH E.	Vinita
MARKS, W. R.	Vinita
McMILLAN, J. M.	Vinita
McPIKE, LLOYD H.	Vinita
MITCHELL, R. L.	Muskogee
SANGER, PAUL G.	Vinita

STOUGH, D. B.	Vinita
WALKER, C. F.	Grove

CREEK

COPPEDGE, O. S.	Depew
COWART, O. H.	Bristow
CROSTON, GEORGE C.	Sapulpa
CURRY, J. F.	Sapulpa
HAAS, H. R.	Sapulpa
HOLLIS, J. E.	Bristow
JONES, ELLIS	Sapulpa
KING, E. W.	Bristow
LAMPTON, J. B.	Sapulpa
LEWIS, P. K.	Sapulpa
LONGMIRE, W. P., JR.	Sapulpa
LONGMIRE, W. P., SR.	Sapulpa
McDONALD, C. R.	Mannford
MOTE, PAUL	Sapulpa
OAKES, CHARLES GRATTON	Sapulpa
PICKHARDT, W. L.	Sapulpa
REESE, C. B.	Sapulpa
REYNOLDS, E. W.	Bristow
REYNOLDS, S. W.	Drumright
SCHRADER, CHARLES T.	Bristow
SISLER, FRANK H.	Bristow
STARR, O. W.	Drumright

CUSTER

ALEXANDER, C. J.	Clinton
BOYD, T. A.	Weatherford
BURKE, RICHARD M.	Clinton
CUNNINGHAM, C. B.	Clinton
CUSHMAN, H. R.	Clinton
DEPUTY, ROSS	Clinton
DOLER, C.	Clinton
ENGLEMAN, C. C.	Clinton
FRIZZELL, J. T.	Clinton
GAEDE, D.	Weatherford
GOSSOM, K. D.	Clinton
HINSHAW, J. R.	Butler
KENNEDY, LOUIS	Clinton
LAMB, ELLIS	Clinton
LINGENFELTER, PAUL B.	Clinton
LOYD, E. M.	Dewey
McBURNNEY, C. H.	Clinton
MILLER, E. A.	Clinton
PAULSON, ALVIN W.	Randolph Field, Texas
ROGERS, McLAIN	Clinton
RUHL, N. E.	Weatherford
STOLL, A. A.	Clinton
TISDAL, WILLIAM C.	Clinton
VIEREGG, F. R.	Clinton
WIGGINS, C. W.	Clinton
WILLIAMS, GORDON	Weatherford
WOOD, J. GUILD	Weatherford

GARFIELD

CHAMPLIN, PAUL B.	Enid
CORDONNIER, BYRON J.	Enid
DUFFY, FRANCIS M.	Enid
FEILD, JULIAN	Enid
HAMBLE, V. R.	Enid
HARRIS, D. S.	Drummond
HINSON, BRUCE R.	Enid
HOPKINS, P. W.	Enid
HUDSON, F. A.	Enid
HUDSON, HARRY H.	Enid
JACOBS, R. G.	Naval Hospital, San Diego, Calif.
JOYCE, FRANK THOMAS	Chickasha
MAYBERRY, S. N.	Enid
McCROSKIE, M. R.	Fairview
McEVOY, S. H.	Enid
MERCER, WENDELL J.	Enid
METSCHER, ALFRED J.	Enid
NEILSON, W. P.	Enid
NEWELL, W. B., JR.	Enid
NEWELL, WALDO B., SR.	Enid
REMPEL, PAUL H.	Enid
RHODES, W. H.	Enid
ROBERTS, D. D.	Enid

ROSS, GEORGE	Enid
ROSS, HOPE	Enid
RYAN, ROBERT O.	Fairview
SHANNON, HUGH R.	Boley
SHAVER, S. R.	Fairview
SHEETS, MARION E.	Enid
SPECHT, ELSIE L.	Fairview
TALLEY, EVANS E.	Enid
VANDEVER, H. F.	Enid
WALKER, JOHN R.	Enid
WATSON, J. M.	Enid
WILSON, GEORGE S.	Enid
WOLFE, E. J.	Waukomis

GARVIN

ALEXANDER, ROBERT M.	Paoli
BURNS, SAMUEL L.	Stratford
CALLAWAY, JOHN R.	Pauls Valley
GREENING, WILLIAM P.	Pauls Valley
GROSS, T. F.	Lindsay
JOHNSON, GALVIN L.	Pauls Valley
LINDSEY, RAY H.	Pauls Valley
MONROE, HUGH H.	Lindsay
PRATT, CHARLES M.	Lindsay
ROBBERTSON, MARVIN E., JR.	Wynnewood
ROBBERTSON, MARVIN E., SR.	Wynnewood
SHI, AUGUSTIN H.	Stratford
SHIRLEY, EDWARD T.	Pauls Valley
WILSON, H. P. (honorary)	Wynnewood

GRADY

BAZE, ROY E.	Chickasha
BAZE, WALTER J.	Chickasha
BONNELL, W. L.	Chickasha
BOON, U. C.	Chickasha
BYNUM, TURNER	Chickasha
COOK, W. H.	Chickasha
DOWNEY, D. S.	Chickasha
EMANUEL, LEWIS E.	Chickasha
EMANUEL, ROY E.	Chickasha
HENNING, A. E.	Tuttle
LEEDS, A. B.	Chickasha
LITTLE, AARON C.	Minco
MASON, REBECCA H.	Chickasha
McCLURE, H. M.	Chickasha
MITCHELL, C. P.	Chickasha
PLYLE, OSCAR S.	Chickasha
RENEGAR, J. P.	Tuttle
WOODS, LEWIS E.	Chickasha

GRANT

HARDY, I. V.	Medford
LAWSON, E. E.	Medford
LIVELY, S. A.	Wakita

GREER

BORDER, G. F.	Mangum
CHERRY, G. P. (honorary)	Mangum
COLLIER, E. K.	Tipton
HOLLIS, J. B.	Mangum
LANSDEN, J. B.	Granite
LEWIS, R. W.	Granite
LOWE, J. T.	Mangum
MEREDITH, J. S.	Duke
POER, E. M.	Mangum
RUDE, JOE C.	Duke Hospital, Durham, N. C.

HARMON

HOLLIS, L. E.	Hollis
HOPKINS, S. W.	Hollis
HUSBAND, W. G.	Hollis
*JONES, JAMES E. (honorary)	Hollis
LYNCH, R. H.	Hollis
RAY, W. T. (honorary)	Gould
STREET, O. J.	Gould
YEARGAN, W. M.	Hollis
*Died May 23, 1941.	

HASKELL

CARSON, WILLIAM S.	Kcota
RUMLEY, J. C.	Stigler
THOMPSON, W. A.	Stigler
WILLIAMS, N. K.	McCurtain

HUGHES

DAVENPORT, A. L.	Holdenville
FLOYD, W. E.	Holdenville
HAMILTON, S. H.	Non
HICKS, C. A.	Holdenville
HOWELL, H. A.	Holdenville
JOHNSTON, L. A. S.	Holdenville
KERNEK, CLYDE	Holdenville
MAYFIELD, IMOGENE	Holdenville
MORRIS, R. D.	Allen
MUNAL, JOHN	Holdenville
PRYOR, V. W.	Holdenville
SHAW, JAMES F.	Wetumka
TAYLOR, W. L.	Holdenville
WALLACE, C. S.	Holdenville

JACKSON

ABERNETHY, E. A.	Altus
ALLGOOD, J. M.	Altus
BERRY, THOMAS M.	CCC Camp, Sentinel
CROW, E. S.	Olustee
FOX, R. H.	Altus
HIX, J. B.	Altus
HOLT, WILLARD D.	Altus
MABRY, E. W.	Altus
McCONNELL, L. H.	Altus
REID, J. R.	Altus
SPEARS, C. G.	Altus
STARKEY, W. A.	Altus
STULTS, J. S. (honorary)	Altus
TAYLOR, R. Z.	Blair

JEFFERSON

ANDRESKOWSKI, W. T.	Ryan
BROWNING, W. M.	Waurika
COLLINS, D. B.	Waurika
DERR, J. I.	Waurika
DILLARD, J. A.	Waurika
EDWARDS, F. M.	Ringling
HOLLINGSWORTH, J. I.	Waurika
MAUPIN, C. M.	Waurika
WADE, L. L.	Ryan

JOHNSTON

LOONEY, J. T.	Tishomingo
--------------------	------------

KAY

ARMSTRONG, W. O.	Ponca City
ARRENDELL, C. W.	Ponca City
BEATTY, J. H.	Tonkawa
BECKER, L. H.	Blackwell
CLIFT, MERL	Blackwell
CURRY, JOHN R.	Blackwell
GARDNER, C. C.	Ponca City
GHORMLEY, J. G.	Blackwell
GIBSON, R. B.	Ponca City
GORDON, D. M.	Ponca City
GOWEY, H. O.	Newkirk
HARMS, EDWIN M.	Blackwell
HENRY, J. WORRALL	Braman
HOWE, J. H.	Ponca City
KINSINGER, R. R.	Blackwell
KREGER, G. S.	Tonkawa
MALL, W. W.	Ponca City
MATHEWS, DEWEY	Tonkawa
McELROY, THOMAS	Ponca City
MILLER, D. W.	Blackwell
MOORE, G. C.	Ponca City
MORGAN, L. S.	Ponca City
NEAL, L. G.	Ponca City
NIEMANN, G. H.	Ponca City
NORTHCUTT, C. E.	Ponca City
NUCKOLS, A. S.	Ponca City
RISSE, A. S.	Blackwell
RISSE, PHILIP	Blackwell
VANCE, L. C.	Ponca City
WAGGONER, E. E.	Tonkawa
WAGNER, J. C.	Ponca City
WALKER, I. D.	Tonkawa
WHITE, M. S.	Blackwell
WRIGHT, L. I.	Blackwell

YANDELL, HAYS R. *Medical Arts Bldg., Tulsa*
 YEARY, G. H. *Newkirk*

KINGFISHER

DIXON, A. *Hennessey*
 GOSE, C. O. *Hennessey*
 HODGSON, C. M. *Kingfisher*
 LATTIMORE, F. C. *Kingfisher*
 MEREDITH, A. O. *Kingfisher*
 STURGEON, H. VIOLET *Hennessey*
 TAYLOR, JOHN R. *Kingfisher*
 TOWNSEND, B. I. *Hennessey*

KIOWA

ADAMS, J. L. *Hobart*
 BONHAM, J. M. *Hobart*
 BRAUN, J. P. *Hobart*
 FINCH, J. WILLIAM *Hobart*
 FREEMAN, W. H. (honorary) *Sentinel*
 HATHAWAY, A. H. *Mt. View*
 MOORE, J. H. *Hobart*
 WALKER, F. E. *Lone Wolf*
 WATKINS, B. H. *Hobart*

LEFLORE

BAKER, F. P. *Talihina*
 BEVILL, S. D. *Poteau*
 BOOTH, G. R. *LeFlore*
 DAVIS, CHAS. F. *Talihina*
 COLLINS, E. L. *Panama*
 DEAN, S. C. *Howe*
 DORROUGH, J. *Monroe*
 FAIR, E. N. *Heavener*
 HARVEY, JOHN *Heavener*
 HENRY, M. L. *Heavener*
 KELLEAM, E. A. *Pine Valley*
 MINOR, R. W. *Spiro*
 ROLLE, NEESON *Poteau*
 SHIPPEY, W. L. *Poteau*
 WOODSON, E. M. *Poteau*
 WOODSON, O. M. *Poteau*
 WRIGHT, R. L. *Poteau*

LINCOLN

ADAMS, J. W. *Chandler*
 BAILEY, CARL H. *Stroud*
 BROWN, F. C. *Sparks*
 BURLESON, NED *Prague*
 DAVIS, W. B. *Stroud*
 ERWIN, PARA *Wellston*
 HURLBUT, E. F. *Meeker*
 JENKINS, H. B. *Tryon*
 MARSHALL, A. M. *Chandler*
 NICKELL, U. E. *Davenport*
 NORWOOD, F. H. *Prague*
 ROBERTSON, C. W. *Chandler*
 ROLLINS, J. S. *Prague*

LOGAN

ANDERSON, ROY W. *Guthrie*
 BARKER, PAULINE *Guthrie*
 CORNWELL, N. H. *Coyle*
 FIRST, F. R. *Crescent*
 GARDNER, P. B. *Guthrie*
 GRAY, DAN *Guthrie*
 HAHN, L. A. *Guthrie*
 HILL, C. B. *Guthrie*
 LEHEW, JOHN LESLIE, JR. *Guthrie*
 MILLER, W. C. *Guthrie*
 PETTY, C. S. *Guthrie*
 PETTY, JAMES S. *Guthrie*
 RINGROSE, R. F. *Guthrie*
 RITZHAUPT, LOUIS H. *Guthrie*
 ROGERS, C. L. *Marshall*
 SOUTER, J. E. *Guthrie*

MARSHALL

HOLLAND, JOHN LEE *Madill*
 YORK, JOSEPH FERRELL *Madill*

MAYES

HERRINGTON, V. D. *Pryor*
 MORROW, B. L. *Salina*
 PUCKETT, CARL *22 W. 6th St., Okla. City*
 RUTHERFORD, S. C. *Locust Grove*

WERLING, E. H. *Pryor*
 WHITAKER, W. J. *Pryor*
 WHITE, L. C. *Adair*

McCLAIN

DAVIS, E. P. *Purcell*
 DAWSON, O. O. *Wayne*
 KOLB, I. N. *Blanchard*
 McCURDY, W. C., JR. *Purcell*
 McCURDY, W. C., SR. *Purcell*
 ROYSTER, R. L. *Purcell*
 SLOVER, BENJAMIN W. *Blanchard*
 WOOD, W. M. *Purcell*

McCURTAIN

BARKER, N. L. *Broken Bow*
 CLARKSON, A. W. *Valliant*
 McBRAYER, W. H. *Haworth*
 McCASKILL, W. B. *Idabel*
 MORELAND, J. T. *Idabel*
 MORELAND, W. A. *Idabel*
 OLIVER, R. B. *Idabel*
 SHERRILL, R. H. *Broken Bow*
 SIZEMORE, PAUL *Broken Bow*
 WILLIAMS, R. D. *Idabel*
 WILLIAMS, W. W. *Idabel*

McINTOSH

JACOBS, LUSTER L. *Hanna*
 LITTLE, DANIEL E. *Eufaula*
 PUGH, ROBERT E. *Checotah*
 STONER, RAYMOND W. *Checotah*
 TOLLESON, WILLIAM A. *Eufaula*
 WOOD, JAMES L. *Eufaula*

MURRAY

ANNADOWN, P. V. *Sulphur*
 BALL, ERNEST *Sulphur*
 DeLAY, W. D. *Sulphur*
 PARKER, WARREN E. *Davis*
 POWELL, W. H. *Sulphur*
 ROSE, ERNEST *Sulphur*
 SADLER, F. E. *Sulphur*
 THOMAS, O. D. *Sulphur*

MUSKOGEE

BALLANTINE, H. T. *Muskogee*
 BRUTON, L. D. *Muskogee*
 COACHMAN, E. H. *Muskogee*
 DIVINE, D. G. *Wagoner*
 DORWART, F. G. *Muskogee*
 DOYLE, W. H. *Muskogee*
 EARNEST, A. N. *Muskogee*
 EWING, FINIS W. *Muskogee*
 FITE, E. H. *Muskogee*
 FITE, W. P. *Muskogee*
 FULLENWIDER, C. M. *Muskogee*
 HOLCOMB, R. N. *Camp Barkeley, Abilene, Texas*
 JOBLIN, W. R. *Porter*
 KLASS, O. C. *Muskogee*
 KUPKA, JOHN F. *Haskell*
 McALISTER, L. S. *Muskogee*
 McINNIS, J. T. *Muskogee*
 MILLER, D. EVELYN *Muskogee*
 MOBLEY, A. L. 323 S. Dartmouth, Albuquerque, N. M. *Muskogee*
 MOLLIKA, STEPHEN G. *Muskogee*
 NEELY, SHADE D. *Muskogee*
 OLDHAM, I. B. *Muskogee*
 OLDHAM, I. B., JR. *Muskogee*
 SAUNDERS, H. U. *Muskogee*
 SCOTT, H. A. *Muskogee*
 THOMPSON, M. K. *Muskogee*
 WALKER, JOHN H. *Muskogee*
 WARTERFIELD, F. E. *Muskogee*
 WEAVER, W. N. *1804 10th St., Brownwood, Texas*
 WHITE, CHARLES ED *Muskogee*
 WHITE, J. HUTCHINGS *Muskogee*
 WOLFE, I. C. *Camp Barkeley, Abilene, Texas*
 WOODBURN, J. TINDER *Muskogee*

NOBLE

COLDIRON, D. F. *Perry*
 COOKE, C. H. *Perry*
 EVANS, A. M. *Perry*

FRANCIS, J. W.Perry
 HEISS, J. E.Perry
 RENFRO, T. F.Billings
 WIGNER, R. H.Marland

OKFUSKEE

BLOSS, C. M., JR.Camp Grant, Rockford, Ill.
 BOMBARGER, C. C.Paden
 BRICE, M. O.Okemah
 COCHRAN, C. M.Okemah
 JENKINS, W. P.Okemah
 KORNBLEE, A. T.Weleetka
 LUCAS, A. C.Castle
 MELTON, A. S.Okemah
 PEMBERTON, J. M.Okemah
 PRESTON, J. R.Weleetka
 SPICKARD, L. J.Okemah

OKLAHOMA

ADAMS, ROBERT H.Ramsey Tower
 AKIN, ROBERT H.400 N. W. 10th St.
 ALFORD, J. M.Medical Arts Bldg.
 ALLEN, E. P.1200 N. Walker
 ALLEN, GEORGE T.1200 N. Walker
 ANDREWS, LEILA E.1200 N. Walker
 APPLETON, MEREDITH M.400 N. W. 10th St.
 ARRINGTON, C. T.215 Cotton Exchange Bldg.
 BAILEY, F. M.Quemado, N. M.
 BAILEY, W. H.Station Hospital, Fort Sill
 BALYEAT, RAY M.1200 N. Walker
 BARB, T. J.240 W. Commerce
 BARKER, C. E.1200 N. Walker
 BARRY, GEORGE N.Medical Arts Bldg.
 BATCHELOR, JOHN J.Medical Arts Bldg.
 BATTENFIELD, JOHN Y.State Health Dept.
 BAUM, E. ELDON404 Perrine Bldg.
 BELL, AUSTIN H.301 W. 12th St.
 BERRY, CHARLES N.Medical Arts Bldg.
 BINKLEY, J. G.Medical Arts Bldg.
 BIRD, JESSE2501 S. Agnew
 BIRGE, JACK P.Ramsey Tower
 BOATRIGT, LLOYD C.Perrine Bldg.
 BOGGS, NATHANPerrine Bldg.
 BOLEND, REXCamp Barkeley, Abilene, Texas
 BONDURANT, C. P.Medical Arts Bldg.
 BONHAM, WILLIAM L.Medical Arts Bldg.
 BORDER, CLINTON L.Amer. Nat'l Bldg.
 BORECKY, GEORGE L.Ramsey Tower
 BRADLEY, H. C.Perrine Bldg.
 BRANHAM, D. W.Medical Arts Bldg.
 BREWER, A. M.Perrine Bldg.
 BROWN, GERSTER W.Medical Arts Bldg.
 BRUNDAGE, C. L.1200 N. Walker
 BURTON, JOHN F.1200 N. Walker
 BUTLER, H. W.1200 N. Walker
 CAILEY, LEO F.Medical Arts Bldg.
 CAMPBELL, COYNE H.4th and Walnut
 CATES, ALBERT M. (honorary)....2733 N. W. 20th St.
 CAVINESS, J. J.Medical Arts Bldg.
 CHAFFIN, ZALEMunicipal Bldg.
 CHARNEY, L. H.Medical Arts Bldg.
 CLARK, ANSON L.Medical Arts Bldg.
 CLARK, JOHN V.1706 S. E. 29th St.
 CLARK, LEMONMedical Arts Bldg.
 CLARK, RALPH O.1706 S. E. 29th St.
 CLYMER, C. E.Medical Arts Bldg.
 COLEY, A. J. (honorary)Hightower Bldg.
 COLLINS, H. DALEMedical Arts Bldg.
 COLOXNA, PAUL C.800 N. E. 13th St.
 COOPER, F. MAXEYMedical Arts Bldg.
 COSTON, TULLOS O.Medical Arts Bldg.
 CUNNINGHAM, JOHN A.209 N. W. 13th St.
 DAILY, H. J.Medical Arts Bldg.
 DANIELS, HARRY A.610 N. W. 9th St.
 DeMAND, F. A.1200 N. Walker
 DERSCH, WALTER H.Medical Arts Bldg.
 DEUPREE, HARRY L.Medical Arts Bldg.
 DICKSON, GREEN K.1200 N. Walker
 DILL, FRANCIS E.Medical Arts Bldg.
 DOUDNA, HUBERT E.800 E. 13th St.
 DOWDY, THOMAS W.Medical Arts Bldg.

EARLY, RALPH O.Medical Arts Bldg.
 EASTLAND, WILLIAM E.Medical Arts Bldg.
 ELEY, N. PRICE400 W. 10th St.
 ELLIS, STEPHEN S.610 N. W. 9th St.
 EMENHISER, LEE K. 123Harrison, San Antonio, Tex.
 EPLEY, C. O.1200 N. Walker
 ERWIN, FRANTZ B.Medical Arts Bldg.
 ESKRIDGE, J. B., JR.1200 N. Walker
 FAGIN, HERMANNat'l Aid Life Bldg.
 FARIS, BRUNEL D.Medical Arts Bldg.
 FELTS, GEORGE R.1200 N. Walker
 FERGUSON, E. GORDONMedical Arts Bldg.
 FERGUSON, E. S.Medical Arts Bldg.
 FISHMAN, C. J.132 N. W. 4th St.
 FLESHER, THOMAS H.Edmond
 FOERSTER, HERVEY A. Camp Wallace, Galveston, Tex.
 FORD, HARRY C.Medical Arts Bldg.
 FRIERSON, S. E.Medical Arts Bldg.
 FULTON, C. C.Medical Arts Bldg.
 FULTON, GEORGEAmer. Nat'l Bldg.
 GALBRAITH, HUGH M.4th and Walnut
 GALLAGHER, C. A.610 W. 9th St.
 GARRISON, GEORGE H.1200 N. Walker
 GEE, O. J.Medical Arts Bldg.
 GIBBS, ALLEN G.Ramsey Tower
 GILLIS, EUGENE A.State Health Dept.
 GLOMSET, JOHN L.1200 N. Walker
 GOLDFAIN, E.Medical Arts Bldg.
 GOODWIN, R. Q.Medical Arts Bldg.
 GRAHAM, A. T.26 S. W. 25th St.
 HALL, CLARK H.Medical Arts Bldg.
 HAMMONDS, O. O.623 N. E. 18th St.
 HARBISON, FRANK510 N. W. 12th St.
 HARBISON, J. E.510 N. W. 12th St.
 HARRIS, HENRY W.1200 N. Walker
 HASKETT, PAUL E.Hales Bldg.
 HASSLER, GRACE C.Medical Arts Bldg.
 HAYES, BASIL A.625 N. W. 10th St.
 HAZEL, ONIS G.1200 N. Walker
 HEATLEY, JOHN E.Medical Arts Bldg.
 HERRMANN, JESS D.Medical Arts Bldg.
 HETHERINGTON, A. J.2014 Gatewood
 HICKS, FRED B.Medical Arts Bldg.
 HIRSHFIELD, A. C.Medical Arts Bldg.
 HOLLIDAY, J. R.Medical Arts Bldg.
 HOOD, F. REDDING1200 N. Walker
 HOWARD, R. M.1200 N. Walker
 HUGGINS, J. R.2225 Exchange Ave.
 HULL, WAYNE M.1200 N. Walker
 HUNTER, GEORGE2248 N. W. 17th St.
 HYROOP, GILBERT L.Medical Arts Bldg.
 ISHMAEL, WILLIAM K.605 N. W. 10th St.
 JACKSON, A. R.2528½ S. Robinson
 JACOBS, MINARD F.Medical Arts Bldg.
 JANCO, LEON10 W. Park
 JETER, HUGH1200 N. Walker
 JONES, HUGHMedical Arts Bldg.
 KELLER, W. F.Medical Arts Bldg.
 KELSO, JOSEPH W.Medical Arts Bldg.
 KELTZ, BERT F.Medical Arts Bldg.
 KERNODLE, STRATTON E.First National Bldg.
 KIMBALL, GEORGE H.Medical Arts Bldg.
 KUHN, JOHN F., JR.Medical Arts Bldg.
 KUHN, JOHN F.Medical Arts Bldg.
 KURZNER, MEYER1200 N. Walker
 LACHMANN, ERNST800 N. E. 13th St.
 LAIN, E. S.Medical Arts Bldg.
 LAMB, JOHN H.Medical Arts Bldg.
 LAMBKE, PHIL M.105 N. W. 23rd St.
 LaMOTTE, GEORGE A.Colcord Bldg.
 LANGSTON, WANNMedical Arts Bldg.
 LEMON, CECIL W.Medical Arts Bldg.
 LENEY, FANNIE LOU400 N. W. 10th St.
 LEONARD, C. E. 531Fullerton Parkway, Chicago, Ill.
 LEWIS, A. R.Hightower Bldg.
 LINDSTROM, W. C.Camp Barkeley, Abilene, Texas
 LINGENFELTER, F. M.1200 N. Walker
 LITTLE, JOHN R.Ramsey Tower
 LONG, LeROY D.Medical Arts Bldg.

SHEPPARD, MARY S.	1200 N. Walker
SHORBE, HOWARD B.	Station Hospital, Fort Sill
SMITH, CHARLES A.	4th and Walnut
SMITH, DELBERT G.	First National Bldg.
SMITH, EDWARD N.	800 N. E. 13th St.
SMITH, RALPH A.	443½ N. W. 23rd St.
SNOW, J. B.	1200 N. Walker
STANBRO, GREGORY E.	Medical Arts Bldg.
STARRY, L. J.	1200 N. Walker
STONE, S. N.	Edmond
STOUT, MARVIN E.	209 N. W. 13th St.
STRADER, S. ERNEST	Hightower Bldg.
STRECKER, WILLIAM E.	1200 N. Walker
SULLIVAN, ELIJAH S.	Medical Arts Bldg.
TABOR, GEORGE R. (honorary) ..	First National Bldg.
TAYLOR, CHARLES B.	Medical Arts Bldg.
TAYLOR, JIM M.	Medical Arts Bldg.
TAYLOR, WILLIAM M.	1200 N. Walker
THOMPSON, WAYMAN J.	1200 N. Walker
TOOL, DONOVAN	Edmond
TOWNSEND, CARY W.	Medical Arts Bldg.
TRENT, ROBERT I.	Medical Arts Bldg.
TURNER, HENRY H.	1200 N. Walker
VAHLBERG, E. R.	Perrine Bldg.
VON WEDEL, CURT	610 N. W. 10th St.
WAILS, T. G.	Medical Arts Bldg.
WAINWRIGHT, TOM L.	Medical Arts Bldg.
WARMACK, J. C.	200 N. W. 16th St.
WATSON, O. ALTON	1200 N. Walker
WATSON, R. D.	Britton
WEIR, MARSHALL W.	Ramsey Tower
WELLS, EVA	Medical Arts Bldg.
WELLS, LOIS LYON	800 N. E. 13th St.
WELLS, W. W.	Medical Arts Bldg.
WEST, W. K.	1200 N. Walker
WESTFALL, L. M.	Medical Arts Bldg.
WHITE, ARTHUR W.	Medical Arts Bldg.
WHITE, OSCAR R.	1200 N. Walker
WHITE, PHIL E.	Perrine Bldg.
WILDMAN, S. F.	Medical Arts Bldg.
WILKINS, HARRY	Medical Arts Bldg.
WILLIAMS, LEONARD C.	1200 N. Walker
WILLIAMSON, SAM H.	Jones
WILLIAMSON, W. H.	128 N. W. 14th St.
WILLIE, JAMES A.	Medical Arts Bldg.
WILSON, KENNETH J.	Medical Arts Bldg.
WITTEN, HAROLD B.	Harrah
WOLFF, JOHN POWERS	1200 N. Walker
WOODWARD, NEIL W.	1200 N. Walker
WRIGHT, HARPER	318 S. W. 25th St.
YOUNG, A. M., 3rd	Medical Arts Bldg.
YOUNG, A. M., JR. (honorary) ..	Medical Arts Bldg.

ALEXANDER, LIN	Okmulgee
ALEXANDER, ROBERT L.	Okmulgee
BOLLINGER, I. W.	Henryetta
BOSWELL, H. D.	Henryetta
CARLOSS, T. C.	Morris
CARNELL, M. D.	Okmulgee
COTTERAL, J. R.	Henryetta
EDWARDS, J. G.	Okmulgee
HOLMES, A. R.	Henryetta
HUDSON, W. S.	Okmulgee
KILPATRICK, G. A.	Henryetta
LESLIE, S. B.	Okmulgee
MABEN, CHARLES S.	Okmulgee
MATHENEY, J. C.	Okmulgee
McKINNEY, G. Y.	Henryetta
MING, C. M.	Okmulgee
MITCHENER, W. C.	Okmulgee
MORRIS, CHARLES H.	1105 Durham
	Brownwood, Texas
RAINS, HUGH L.	Okmulgee
RODDA, E. D.	Okmulgee
SIMPSON, N. N.	Henryetta
SMITH, C. E.	Quarters 31, Fort Logan, Colo.
TRACEWELL, GEORGE L.	Okmulgee

VERNON, W. C.	Okmulgee
WATSON, F. S.	Okmulgee

OSAGE

AARON, WILLIAM H.	Pawhuska
BAYLOR, RICHARD A.	Fairfax
DALY, JOHN F.	Camp Barkeley, Abilene, Texas
DOZIER, BARCLAY E.	Shidler
GOVAN, THOMAS P.	Pawhuska
GUILD, CARL H.	Shidler
HEMPHILL, GEORGE K.	Pawhuska
HEMPHILL, PAUL H.	Camp Barkeley, Abilene, Texas
KARASEK, MATTHEW	Shidler
KEYES, E. C.	Shidler
KIMBALL, M. C.	Webb City
LIPE, EVERETT N.	Fairfax
LOGAN, C. K.	Hominy
RAGAN, TILLMAN A.	Fairfax
SMITH, RAYMOND O.	Hominy
SULLIVAN, B. F.	Barnsdall
WALKER, G. I.	Hominy
WALKER, ROSCOE	Pawhuska
WEIRICH, COLIN REID	Pawhuska
WILLIAMS, CLAUDE W.	300 N. E. 15th St., O. C.
WORTEN, DIVONIS	Pawhuska

OTTAWA

AISENSTADT, E. ALBERT	Station Hosp., Ft. Sill, Ok.
BARRY, J. R.	Picher
BOWERS, FRANKLIN T.	Picher
CANNON, R. F.	Miami
CHESNUT, W. G.	Miami
CONNELL, M. A.	Picher
CRAIG, J. W.	Miami
CUNNINGHAM, P. J.	Miami
DeARMAN, M. M.	Miami
DeTAR, GEORGE A.	Miami
DOLAN, WILLIAM M.	Picher
HAMPTON, J. B.	Commerce
HETHERINGTON, L. P.	Miami
HUGHES, A. R.	Miami
JACOBY, J. SHERWOOD	Commerce
KERR, WALTER C. H.	Picher
McNAUGHTON, G. P.	Miami
MILLER, H. K.	Fairland
MURRY, A. V.	Picher
RALSTON, BENJAMIN W.	Commerce
RITCHEY, H. C.	Picher
RUSSELL, RICHARD	Picher
SANGER, WALTER B.	Picher
SAYLES, W. JACKSON	Miami
SHELTON, B. WRIGHT	Miami
SIEVERS, CHARLES M.	Picher
STAPLES, J. H. L.	Afton
WORMINGTON, F. L.	Miami

PAWNEE

BROWNING, R. L.	Pawnee
JONES, R. E.	Pawnee
LEHEW, J. L.	Pawnee
ROBINSON, E. T.	Cleveland
SADDORIS, M. L.	Cleveland
SPAULDING, H. B.	Ralston

PAYNE

*BEACH, CALBERT H. (honorary)	Glencoe
CLEYERDON, L. A.	Stillwater
DAVIDSON, W. N.	Cushing
DAVIS, BENJAMIN	Cushing
FRIEDEMANN, PAUL W.	Stillwater
FRY, POWELL E.	Stillwater
HARRIS, EDWARD M. (honorary)	Cushing
HOLBROOK, R. W.	Perkins
LEATHEROCK, R. E.	Cushing
MARTIN, E. O.	Cushing
MARTIN, JAMES D.	Cushing
MARTIN, JOHN F.	Stillwater
MARTIN, JOHN W.	Cushing
MITCHELL, L. A.	Stillwater
OEHLSCHLAGER, F. KEITH	Yale
*Died May 15, 1941.	

PETER, MAURICE L.	Stillwater
PUCKETT, HOWARD L.	Stillwater
RICHARDSON, P. M.	Cushing
ROBERTS, R. E.	Stillwater
SEXTON, C. E. (honorary)	Stillwater
SMITH, A. B.	Stillwater
SMITH, HASKELL	Stillwater
STEVENSON, DORA WILEY	Stillwater
THOMPSON, W. C.	Stillwater
WAGGONER, ROY E.	Stillwater
WILHITE, L. L.	Perkins

PITTSBURG

BAUM, FRANK J.	McAlester
BARTHELD, FLOYD T.	McAlester
BUNN, A. D.	Savanna
CALLAHAN, J. S.	Wilburton
DORROUGH, JOE	McAlester
ELLIS, H. A.	Pittsburg
GEORGE, L. J.	Stuart
GREENBERGER, EDWARD D.	McAlester
HARRIS, J. M.	Wilburton
KAEISER, WILLIAM H.	McAlester
KILPATRICK, GEORGE A.	McAlester
KLOTZ, WILLIAM F.	McAlester
KUYRKENDALL, L. C.	McAlester
LIVELY, C. E.	McAlester
McCARLEY, T. H.	McAlester
MILLER, FRANK A.	Hartshorne
MUNN, JESSE A.	McAlester
NORRIS, T. T.	Krebs
PARK, JOHN F.	McAlester
PEARCE, CHARLES M.	McAlester
PEMBERTON, R. K.	McAlester
RAMSEY, W. G.	McAlester
RICE, O. W.	McAlester
SAMES, W. W.	Hartshorne
SHULLER, E. H.	McAlester
STOUGH, A. R.	McAlester
WAIT, WILLIAM C.	McAlester
WELCH, A. H. (honorary)	McAlester
WILLIAMS, C. O.	McAlester
WILLOUR, L. S.	McAlester
WILSON, HERBERT A.	McAlester
WILSON, McCLELLAND (honorary)	McAlester

PONTOTOC

BIGLER, IVAN E.	Ada
BRECO, J. G.	Ada
BRYDIA, CATHERINE	Ada
CANADA, ERNEST A.	Ada
CHEATWOOD, WILLIAM R.	Ada
COWLING, ROBERT E.	Ada
CUMMINGS, I. L.	Ada
DEAN, W. F.	Ada
GULLATT, ENNIS M.	Ada
LANE, WILSON H.	Ada
LEWIS, E. F.	Ada
LEWIS, M. L.	Ada
McBRIDE, OLLIE	Ada
McKEEL, SAM A.	Ada
MILLER, O. H.	Ada
MOREY, J. B.	Ada
MUNTZ, E. R.	Ada
NEEDHAM, C. F.	Ada
PETERSON, WILLIAM G.	Ada
ROSS, S. P.	Ada
RUTLEDGE, J. A.	Ada
SUGG, ALFRED R.	Ada
WEBSTER, M. M.	Ada
WELBORN, O. E.	Ada

POTTAWATOMIE

ALLEY, RALPH M.	Shawnee
ANDERSON, R. M.	Shawnee
BAKER, M. A.	Shawnee
BALL, W. A.	Wanette
BAXTER, GEORGE S.	Shawnee
BROWN, R. A.	R.F.D. Prague
BYRUM, J. M.	Shawnee
CAMPBELL, H. G.	St. Louis

CARSON, F. L.	Shawnee
CARSON, JOHN	Shawnee
CORDELL, U. S.	McComb
CULBERTSON, R. R.	Maud
CULLUM, J. E. (honorary)	Marshfield, Mo.
FORTSON, J. L.	Tecumseh
GALLAHER, CLINTON	Shawnee
GALLAHER, PAUL C.	Shawnee
GALLAHER, W. M.	Shawnee
GILLICK, DAVID W.	208 Federal Bldg., Okla. City
HASSLER, F. R.	Shawnee
HAYGOOD, CHARLES W.	Shawnee
HUGHES, HORTON E.	Shawnee
HUGHES, J. E.	Shawnee
KAYLER, R. C.	McLoud
KEEN, F. M.	Shawnee
MATTHEWS, W. F.	Tecumseh
McFARLING, A. C.	Shawnee
McFARLING, JOHN	Shawnee
MULLINS, WILLIAM B.	Shawnee
NEWLIN, FRANCIS P.	Shawnee
PARAMORE, C. F.	Shawnee
RICE, E. EUGENE	Shawnee
ROWLAND, T. D.	Shawnee
WALKER, J. A.	Shawnee
WILLIAMS, ALPHA McADAMS	Shawnee
YOUNG, C. C.	Shawnee

PUSHMATAHA

CONNALLY, D. W.	Antlers
HUCKABY, B. M.	Antlers
LAWSON, JOHN S.	Clayton
PATTERSON, E. S.	Antlers
RICE, P. B.	Antlers

ROGERS

ANDERSON, F. A.	Claremore
ANDERSON, P. S.	Claremore
ANDERSON, W. D.	Claremore
BESON, CLYDE W.	Claremore
BIGLER, E. E.	Claremore
CALDWELL, C. L.	Chelsea
COLLINS, B. F.	Claremore
HOWARD, W. A.	Chelsea
JENNINGS, K. D.	Chelsea
MELINDER, ROY J.	Camp Barkeley, Abilene, Texas
MELOY, R. C.	Claremore
NELSON, D. C.	Navajo Medical Center Ft. Defiance, Ariz.

SEMINOLE

CHAMBERS, CLAUDE S.	Seminole
DAVIS, JOHN	Seminole
GIESEN, A. F.	Konawa
GRIMES, JOHN P.	Wewoka
HARBER, J. N. (honorary)	Seminole
HARTSHORNE, WILLIAM O.	Cromwell
KNIGHT, CLAUDE B.	Wewoka
LYTLE, WILLIAM R.	Seminole
McGOVERN, J. D.	Wewoka
MOSHER, D. D.	Seminole
PACE, L. R.	Seminole
REEDER, H. M.	Konawa
RIPPY, O. M.	Seminole
SHANHOLTZ, MACK I.	Wewoka
STEPHENS, A. B.	Seminole
VAN SANDT, GUY B.	Wewoka
VAN SANDT, MAX M.	Wewoka
WALKER, A. A.	Wewoka
WILLIAMS, J. CLAY	Wewoka
WRIGHT, HERBERT L.	Sasakwa

SEQUOYAH

MORROW, J. A.	Sallisaw
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STEPHENS

COKER, JOHN K.	Duncan
GARRETT, S. S.	Duncan
IVY, WALLIS S.	Duncan
LINDLEY, E. C.	Duncan

McLAIN, W. Z.	Marlow
McMAHAN, A. M.	Duncan
PATTERSON, J. L.	Duncan
RICHARDSON, R. W.	Duncan
TALLEY, C. N.	Marlow
THOMASSON, E. B.	Duncan
WALKER, W. K.	Marlow
WATERS, CLAUDE B.	Duncan
WEEDN, A. J.	Duncan

TEXAS

BLACKMER, L. G.	Hooker
BLUE, JOHNNY A.	Guymon
HALL, HARRY B.	Boise City
HAYES, R. B.	Guymon
LEE, DANIEL S.	Guymon
NICHOLSON, JAMES L.	Guymon
OBERMILLER, R. G.	Texhoma
SMITH, MORRIS	Guymon
THURSTON, HARRY E.	Texhoma

TILLMAN

ALLEN, C. C.	Frederick
ARRINGTON, J. E.	Frederick
BACON, O. G.	Frederick
BOX, O. H., JR.	Grandfield
CHILDERS, J. E.	Tipton
COMP, G. A.	Manitou
FISHER, R. L.	Frederick
FOSHEE, W. C.	Grandfield
FUQUA, W. A.	Grandfield
OSBORN, J. D.	Frederick
SPURGEON, T. F.	Frederick

TULSA

ADAMS, R. M.	501 N. Boulder
AKINS, J. O.	Medical Arts Bldg.
ALLEN, V. K.	Medical Arts Bldg.
ARMSTRONG, O. C.	Medical Arts Bldg.
ATCHLEY, R. Q.	Medical Arts Bldg.
BEESLEY, W. W.	Medical Arts Bldg.
BEST, RALPH L.	Drumright
BILLINGTON, J. JEFF	Tulsa County Clinic
BLACK, HAROLD J.	Medical Arts Bldg.
BOLTON, J. FRED	Medical Arts Bldg.
BRADFIELD, S. J.	Medical Arts Bldg.
BRADLEY, C. E.	Medical Arts Bldg.
BRANLEY, B. L.	Medical Arts Bldg.
BRASWELL, JAMES C.	Medical Arts Bldg.
BROGDEN, J. C.	Medical Arts Bldg.
BROOKSHIRE, J. E. (honorary)	409 S. Boulder
BROWNE, HENRY S.	Medical Arts Bldg.
BRYAN, W. J., JR.	Medical Arts Bldg.
CALHOUN, C. E.	Sand Springs
CALHOUN, W. H.	Medical Arts Bldg.
CAMERON, PAUL B.	Springer Clinic
CARNEY, A. B.	915 S. Cincinnati
CHALMERS, J. S.	Sand Springs
CHARBONNET, P. N.	Medical Arts Bldg.
CHILDS, D. B.	1226 S. Boston Place
CHILDS, H. C.	1226 S. Boston Place
CHILDS, J. W.	1226 S. Boston Place
CLINTON, FRED S. (honorary)	230 E. Woodward Blvd.
CLULOW, GEORGE H.	1307 S. Main
COHENOUR, E. L.	Medical Arts Bldg.
COOK, W. ALBERT	Medical Arts Bldg.
COULTER, T. B.	Medical Arts Bldg.
CRAWFORD, WILLIAM S.	Nat'l Bank of Tulsa Bldg.
CRONK, FRED Y.	Medical Arts Bldg.
DAILY, R. E.	Birby
DAVIS, A. H.	Medical Arts Bldg.
DAVIS, GEORGE M.	Birby
DEAN, W. A.	Medical Arts Bldg.
DENNY, E. RANKIN	Medical Arts Bldg.
DUNLAP, ROY W.	Medical Arts Bldg.
EADS, C. H.	Medical Arts Bldg.
EDWARDS, D. L.	203 Philcade Bldg.
EDWARDS, JOHN	Medical Arts Bldg.
EVANS, HUGH J.	Medical Arts Bldg.
FARRIS, H. LEE	Medical Arts Bldg.
FLACK, F. L.	Nat'l Bank of Tulsa Bldg.

FLANAGAN, O. A.	912 S. Boulder	PERRY, HUGH	804 Atlas Life Bldg.
FORRY, W. W.	Birby	PERRY, JOHN C.	Medical Arts Bldg.
FRANKLIN, S. E.	Medical Arts Bldg.	PIGFORD, A. W.	Medical Arts Bldg.
FULCHER, JOSEPH	Medical Arts Bldg.	PIGFORD, R. C.	Medical Arts Bldg.
GARRETT, D. L.	Medical Arts Bldg.	PORTER, H. H.	Medical Arts Bldg.
GILBERT, J. B.	Nat'l Mutual Bldg.	PRESSON, L. C.	1305 E. 15th St.
GLASS, FRED A.	Medical Arts Bldg.	PRICE, H. P.	Medical Arts Bldg.
GODDARD, R. K.	Skiatook	RAMEY, CLYDE	612 Palace Bldg.
GOODMAN, SAMUEL	Medical Arts Bldg.	RAY, R. G.	915 S. Cincinnati
GORRELL, J. F.	Medical Arts Bldg.	REESE, K. C.	Medical Arts Bldg.
GRAHAM, HUGH C.	1307 S. Main	REYNOLDS, J. L.	305 Palace Bldg.
GREEN, HARRY	Medical Arts Bldg.	RHODES, R. E. L.	Medical Arts Bldg.
GROSSIART, PAUL	Medical Arts Bldg.	RICHEY, S. M. (honorary)	3830 W. 41st St.
HALL, G. H.	308 Palace Bldg.	ROGERS, J. W.	Medical Arts Bldg.
HARALSON, C. H.	Medical Arts Bldg.	ROTH, A. W.	Medical Arts Bldg.
HARDMAN, T. J.	Medical Arts Bldg.	RUPPRECHT, H. A.	Springer Clinic
HARRIS, BUNN	Jenks	RUPPRECHT, MARCELLA	Springer Clinic
HART, MABEL M.	2529 S. Boston Place	RUSHING, F. E.	Medical Arts Bldg.
HART, M. O.	1232 S. Boulder	RUSSELL, G. R.	Springer Clinic
HAYS, LUVERN	Medical Arts Bldg.	SCHRECK, PHILIP M.	Medical Arts Bldg.
HENDERSON, F. W.	Medical Arts Bldg.	SEARLE, M. J.	Medical Arts Bldg.
HENLEY, MARVIN D.	Medical Arts Bldg.	SHAPIRO, DAVID	206 Atlas Life Bldg.
HENRY, G. H.	Medical Arts Bldg.	SHEPARD, R. M.	Medical Arts Bldg.
HOKE, C. C.	207 Philtower Bldg.	SHEPARD, S. C.	Medical Arts Bldg.
HOOVER, W. D.	201 Philcade Bldg.	SHERWOOD, R. G.	712 Wright Bldg.
HOTZ, CARL J.	Springer Clinic	SHIPP, J. D.	Medical Arts Bldg.
HOUSER, M. A.	628 McBirney Bldg.	SHOWMAN, W. A.	Medical Arts Bldg.
HUBER, W. A.	Medical Arts Bldg.	SIMPSON, CARL F.	Medical Arts Bldg.
HUDSON, DAVID V.	Medical Arts Bldg.	SINCLAIR, F. D.	Springer Clinic
HUDSON, MARGARET G.	Medical Arts Bldg.	SIPPEL, MARY EDNA	1542 E. 15th St.
HUMPHREY, B. H.	Sperry	SISLER, WADE	Mercy Hospital
HUTCHISON, A.	Birby	SMITH, D. O.	Springer Clinic
HYATT, E. G.	Springer Clinic	SMITH, NED R.	Oakwood Sanitarium
JOHNSON, CHARLES D.	207 Atlas Life Bldg.	SMITH, ROY L.	Medical Arts Bldg.
JOHNSON, E. O.	Medical Arts Bldg.	SMITH, RURIC N.	Medical Arts Bldg.
JOHNSON, R. R.	Springer Clinic	SMITH, W. O.	203 Philcade Bldg.
JONES, WILLIAM M.	915 S. Cincinnati	SPANN, LOGAN A.	Braniff Bldg.
KEMMERLY, H. P.	Medical Arts Bldg.	SPOTTSWOOD, MAURICE D.	Medical Arts Bldg.
KRAMER, ALLEN C.	Medical Arts Bldg.	SPRINGER, M. P.	Springer Clinic
LARRABEE, W. S.	Medical Arts Bldg.	STALLINGS, T. W.	724 S. Elgin
LAYTON, O. E.	Collinsville	STANLEY, M. V.	902 N. Denver
LEE, J. K.	Medical Arts Bldg.	STEVENSON, JAMES	Medical Arts Bldg.
LEMASTER, D. W.	Medical Arts Bldg.	STEWART, H. B.	2500 E. 27th Place
LHEVINE, MORRIS B.	Medical Arts Bldg.	STUART, FRANK A.	Medical Arts Bldg.
LONEY, W. R. R.	Medical Arts Bldg.	STUART, LEON H.	Medical Arts Bldg.
LOWE, J. O.	915 S. Cincinnati	SUMMERS, C. S.	611 Daniels Bldg.
LUSK, E. M.	915 S. Cincinnati	SWANSON, K. F.	Springer Clinic
LYNCH, THOMAS J.	201 Philcade Bldg.	TRAINOR, W. J.	Medical Arts Bldg.
MacDONALD, D. M.	1729 S. Utica	TURNBOW, W. R.	Medical Arts Bldg.
MacKENZIE, IAN	Medical Arts Bldg.	UNDERWOOD, DAVID J.	Medical Arts Bldg.
MARGOLIN, BERTHA	Medical Arts Bldg.	UNDERWOOD, F. L.	Medical Arts Bldg.
MARKLAND, J. D.	Medical Arts Bldg.	UNGERMANN, A. H.	Medical Arts Bldg.
MAYGINNIS, P. H.	Palace Bldg.	VENABLE, S. C.	Tulsa County Medical Clinic
McDONALD, J. E.	Medical Arts Bldg.	WALKER, WILLIAM A.	322 Kennedy Bldg.
McGILL, RALPH A.	Medical Arts Bldg.	WALL, GREGORY A. (honorary)	1159 N. Cheyenne
McKELLAR, MALCOLM M.	Springer Clinic	WALLACE, J. E.	Medical Arts Bldg.
McQUAKER, MOLLY	1552 E. 17th Place	WARD, B. W.	Wright Bldg.
MILLER, GEORGE II.	206 Atlas Life Bldg.	WEST, T. H.	Medical Arts Bldg.
MINER, JAMES L.	Medical Arts Bldg.	WHITE, ERIC M.	Medical Arts Bldg.
MISHLER, D. L.	Springer Clinic	WHITE, N. S.	Medical Arts Bldg.
MITCHELL, TOM HALL	Nat'l Bank of Tulsa	*WHITE, PETER COPE	Medical Arts Bldg.
MOHRMAN, S. S.	611 Daniels Bldg.	WILEY, A. RAY	Medical Arts Bldg.
MUNDING, L. A.	Medical Arts Bldg.	WITCHER, R. B.	Medical Arts Bldg.
MURDOCK, H. D.	Medical Arts Bldg.	WOLFF, EUGENE G.	St. John's Hospital
MURRAY, P. G.	Medical Arts Bldg.	WOODSON, FRED E.	Medical Arts Bldg.
MURRAY, SILAS	Medical Arts Bldg.	ZINK, ROY	Daniels Bldg.
MYERS, F. C.	Daniels Bldg.		
NEAL, JAMES H.	1944 N. Denver Place		
NELSON, FRANK J.	Medical Arts Bldg.		
NELSON, F. L.	607 Atlas Life Bldg.		
NELSON, I. A.	Medical Arts Bldg.		
NELSON, M. O.	Medical Arts Bldg.		
NESBITT, E. P.	Medical Arts Bldg.		
NESBITT, P. P.	Medical Arts Bldg.		
NORMAN, G. R.	17½ N. Lewis		
NORTHROP, L. C.	1307 S. Main		
OSBORN, GEORGE R.	Medical Arts Bldg.		
PAVY, C. A.	Medical Arts Bldg.		
PEDEN, JAMES C.	Medical Arts Bldg.		

WAGONER

BATES, S. R.	Wagoner
PLUNKETT, J. H.	Wagoner
RIDDLE, H. K.	Coweta

WASHINGTON-NOWATA

ATHEY, J. V.	Bartlesville
BEECHWOOD, E. E.	Bartlesville
CHAMBERLIN, E. M.	Bartlesville
CRAWFORD, HORACE G.	Bartlesville
CRAWFORD, JOHN E.	Bartlesville
DAVIS, KIEFFER D.	Nowata

*Died May 26, 1941.

DORSHEIMER, GEORGE V.	Dewey
ETTER, FORREST S.	Bartlesville
GENTRY, RAYMOND C.	Bartlesville
GREEN, OTTO I.	Bartlesville
HUDSON, LAWRENCE D.	Dewey
KINGMAN, W. H. (honorary)	Bartlesville
KURTZ, R. L.	Nowata
LANG, S. A.	Nowata
LeBLANC, WILLIAM	Ochelata
PARKS, SETH M.	Bartlesville
REWERTS, FRED C.	Bartlesville
ROBERTS, S. P.	Nowata
RUCKER, RALPH W.	Bartlesville
SCOTT, M. B.	Delaware
SHIPMAN, WILLIAM H.	Bartlesville
SMITH, JOSEPH G.	Bartlesville
SOMERVILLE, OKEY S.	Bartlesville
STAVES, BENJAMIN F.	Bartlesville
TORREY, JOHN P.	Bartlesville
VANSANT, JAMES P.	Dewey
WEBER, HENRY C.	Bartlesville
WEBER, SHERWELL G.	Bartlesville
WELLS, CEPHAS J.	Bartlesville
WORD, LEE B.	Bartlesville

WASHITA

ADAMS, ALLEN C.	Cordell
BENNETT, D. W.	Sentinel
BUNGARDT, A. H.	Cordell
DARNELL, E. E.	Ft. D. A. Russell, Marfa, Texas
HARMS, J. H. (honorary)	310 E. 9th St., Newton, Kan.
LIVINGSTON, L. G.	Reception Center, Ft. Sill., Okla.
McMURRY, JAMES F.	Sentinel
NEAL, A. S.	Cordell
STOWERS, AUBREY E.	Camp Barkeley, Abilene, Tex.
TRACY, C. M.	Sentinel
WEAVER, E. S.	Cordell
WEBER, A.	Bessie

WOODS

BENJEGERDES, THEODORE D.	Beaver
CLAPPER, EBENEZER P. (honorary)	Waynoka
DOUGAN, A. L.	Carmen
ENSOR, DANIEL B.	Hopeton
GRANTHAM, ELIZABETH (honorary)	Alva
HALL, RAY LORMER	Stanberry, Mo.
HUNT, ISAAC S. (honorary)	Freedom
LaFON, WILLIAM F.	Waynoka
McGREW, EDWIN A.	Beaver
ROYER, CHARLES A.	Alva
SIMON, JOHN F.	Alva
SIMON, WILLIAM E.	Alva
STEPHENSON, ISHMAEL F.	Alva
TEMPLIN, OSCAR E.	Alva
TRAVERSE, C. A.	Alva

WOODWARD

BEAM, J. P.	Arnett
CAMP, E. F. (honorary)	Buffalo
CHUMLEY, C. P.	Supply
DAY, JOHN L.	Supply
DUBE, PAUL H.	Shattuck
DUER, JOE	Taloga
DUNCAN, J. C.	Forgas
ENGLAND, MYRON	Woodward
JOHNSON, H. L.	Supply
KING, FRANK M.	Woodward
LEACHMAN, THAD C.	Woodward
MITCHELL, CLARENCE	Supply
NEWMAN, FLOYD	Shattuck
NEWMAN, HASKELL	Shattuck
NEWMAN, O. C.	Shattuck
NEWMAN, ROY	Shattuck
ORRICK, GEORGE W.	Supply
PIERSON, DWIGHT	Buffalo
RUTHERFORD, V. M.	Woodward
SILVERTHORN, CHARLES R. (honorary)	Woodward
TEDROWE, C. W.	Woodward
TRIPLETT, T. BURKE	Mooreland
VINCENT, DUKE W.	Fici
WILLIAMS, C. E.	Woodward
WINCHELL, F. Z.	Buffalo

Opportunity for Practice

There is an opportunity for practice at Putnam, Okla., a town of about 350 population with a large rural territory. Anyone interested should contact Mrs. Orley Phelps at Putnam.

Proper Handling of Head Injuries Told

The proper handling of brain and skull injuries resolves itself into three categories, the prevention of infection, the treatment of increased intracranial pressure (in the space between the skull and brain) and the proper management of depressed fractures (in which a fragment of the skull is depressed below the surface), Bernard S. Brody, M.D., New Haven, Conn., points out in a recent issue of The Journal of the American Medical Association.

"The dissemination of opinion concerning the treatment of cranial injuries," Dr. Brody declares, "is important because the automobile has increased enormously the number of such patients for physicians in out of the way places where the services of a neurosurgeon are not readily available."

Statistics show that the majority of patients recover with ordinary bed rest supplemented in some instances by spinal puncture to relieve the intracranial pressure, the doctor says. Those patients with an uncomplicated concussion should be kept in bed for approximately from ten to fourteen days. X-rays of the skull, when needed for medicolegal reasons or otherwise, can be taken when the patient's condition warrants the effort.

A diagnostic spinal puncture should be done at some time within the first week. Any small amount of bleeding which might have been present may be missed after seven days. For patients whose spinal fluid is bloody or whose period of unconsciousness is prolonged, the diagnosis of simple concussion alone is no longer tenable and the period of bed rest must be proportionately longer.

Logic:

The human body does not store Vitamin B1 in adequate quantities.

Therefore ButterKrust Vita-B Bread (one food that can be eaten with enjoyment at EVERY meal) will help to supply B1 AS IT IS NEEDED.



Contains all the Vitamins found in Wheat, including over 600 Int. Units B1 per loaf. (Averaging about 30 units per slice.)

ASSOCIATION ACTIVITIES

ATTENDANCE RECORD OF 969 MARKS ANNUAL STATE SESSION

Highlighted by a record attendance figure, the President's Inaugural Dinner-Dance, a Selective Service meeting, a buffet supper given by the Oklahoma County Medical Association, and the talks of the eleven speakers from out of the state, the Forty-ninth Annual Session of the Oklahoma State Medical Association was convened May 19, 20, and 21 at the Skirvin Tower Hotel, Oklahoma City.

When the session was adjourned the afternoon of May 21, the final attendance figure was 969.

Host group for the session was the Oklahoma County Medical Association, headed by Dr. C. R. Rountree, Oklahoma City, as general chairman of arrangements. Oklahoma County doctors entertained with a buffet supper in the Skirvin hotel proper, Monday, May 19, when Col. W. Lee Hart, Surgeon in the Eighth Corps Area, Fort Sam Houston, Tex., discussed "Organized Medicine in the National Defense Program," and Harold Andersen, of the Federal Bureau of Investigation office, Oklahoma City, discussed the FBI.

Dr. Finis W. Ewing, 1940-1941 President-Elect, Muskogee, took the reins of office from Dr. Henry H. Turner, retiring President, Oklahoma City, at an inaugural dinner-dance, Tuesday, May 20, on the Fourteenth Floor of the Skirvin hotel proper.

New Officers to Serve With Ewing

Elected to serve with Doctor Ewing during his term were Dr. J. D. Osborn, President-Elect, Frederick; Dr. C. R. Rountree, Vice-President, Oklahoma City; Dr. L. J. Moorman, Secretary-Treasurer, Oklahoma City; Dr. P. P. Nesbitt, Speaker of the House of Delegates, Tulsa; Dr. H. K. Speed, Vice-Speaker of the House of Delegates, Sayre; and Dr. A. S. Risser, Junior Delegate to the American Medical Association meeting, Blackwell.

Guest speakers for scientific sections of the meeting included Dr. James R. Reinberger, Associate Professor of Obstetrics of the University of Tennessee School of Medicine, Memphis, Tenn.; Dr. Meyer Wiener, Professor of Clinical Ophthalmology at the Washington University School of Medicine, St. Louis, Mo.; Dr. Earl Garside, Attending Surgeon of the Augustana Hospital, Chicago, Ill.; Dr. Ralph Pemberton, Professor of Medicine of the Graduate School of the University of Pennsylvania, Philadelphia, Pa.; Dr. Lauren H. Smith, Physician-in-Chief and Administrator of the Department for Mental Diseases and the Institute of the Pennsylvania Hospital, Philadelphia, Pa.; and Dr. A. N. Arneson, Instructor in Clinical Obstetrics, Gynecology and Therapeutic Radiology at the Washington University School of Medicine, St. Louis, Mo.

A new and extraordinary part of the session was the Selective Service Examining Physicians meeting, Monday, May 19, in the Silver Glade room of the Skirvin Tower hotel. Maj. Louis H. Ritzhaupt, M.D., Gnthrie, presided over this group.

The two guest speakers at this meeting were Lt. Col. Richard H. Eanes, Assistant to the Chief of the Medical Division of the Selective Service National Headquarters, Washington, D. C., who spoke on "The Problems Concerning Selective Service Examinations," and Col. W. Lee Hart, who discussed "The Correlation of the Physician's Examination as Required by Selective Service and the United States Army."

The program also included an address by Governor

Leon C. Phillips; a talk, "The Examining Physician's Responsibility in Selecting the Nation's Manpower," by Col. Clive E. Murray, Acting State Director of the Oklahoma State Selective Service Headquarters, Oklahoma City; and a talk, "The Mental Standard for Men in the Armed Forces of the United States," by Dr. D. W. Griffin, Superintendent of the Central State Hospital, Norman. Other parts of the program were talks by Local Board Examining Physicians, and by members of the Medical Advisory Board, and a round table discussion.

Three other guest speakers addressed the Oklahoma Pediatric Association meeting and the Public Health meeting. Dr. Herbert J. Rinkel, Kansas City, Mo., spoke on "Allergy—A Discussion of the General Principles," and "Allergy in Relation to Certain Clinical Syndromes" in the meeting of the Pediatric association, Monday, May 19.

Dr. I. Forrest Huddelson, Research Professor of Bacteriology at Michigan State College, Lansing, Mich., and Dr. Robert B. Greenblatt, Professor of Experimental Medicine of the University of Georgia, Augusta, Ga., were the speakers at the Public Health meeting Tuesday, May 20. Doctor Huddelson discussed "The Diagnosis and Control of Burellosis," and Doctor Greenblatt talked on "Public Health Aspects of the Five Venereal Diseases."

Council Creates New Sections

The meetings of the Council and the House of Delegates were marked by the creation of two new Scientific Sections and the acceptance of six new honorary members of the Association.

On a petition by the physicians of the Oklahoma State Health Department, the Council created a Section on Public Health. The Council also accepted a request for the separation of the Section on Obstetrics and Pediatrics into two Sections, one on Pediatrics, and one on Obstetrics and Gynecology.

Dr. Ned R. Smith, Tulsa, was re-elected by the Council as a member of the Editorial Board.

Six New Honorary Members Accepted

In accordance with the provisions of the By-Laws of the Association, six members in good standing, whose names were on record in the office of the Association, were accepted by the House of Delegates as honorary members. They are Dr. J. W. Browning, Geary; Dr. C. E. Wann, Albany; Dr. P. L. Cain, Albany; Dr. C. E. Sexton, Stillwater; Dr. Edward M. Harris, Cushing, and the late Dr. Calbert H. Beach, Glencoe.

New Councilors elected by the House were Dr. Tom Lowry, Oklahoma City, District 4; Dr. C. W. Arrendell, Ponca City, District 3, and Dr. J. I. Hollingsworth, Waurika, District 5.

Upon request, the House also passed a resolution to transfer Major county from District 1 to District 3.

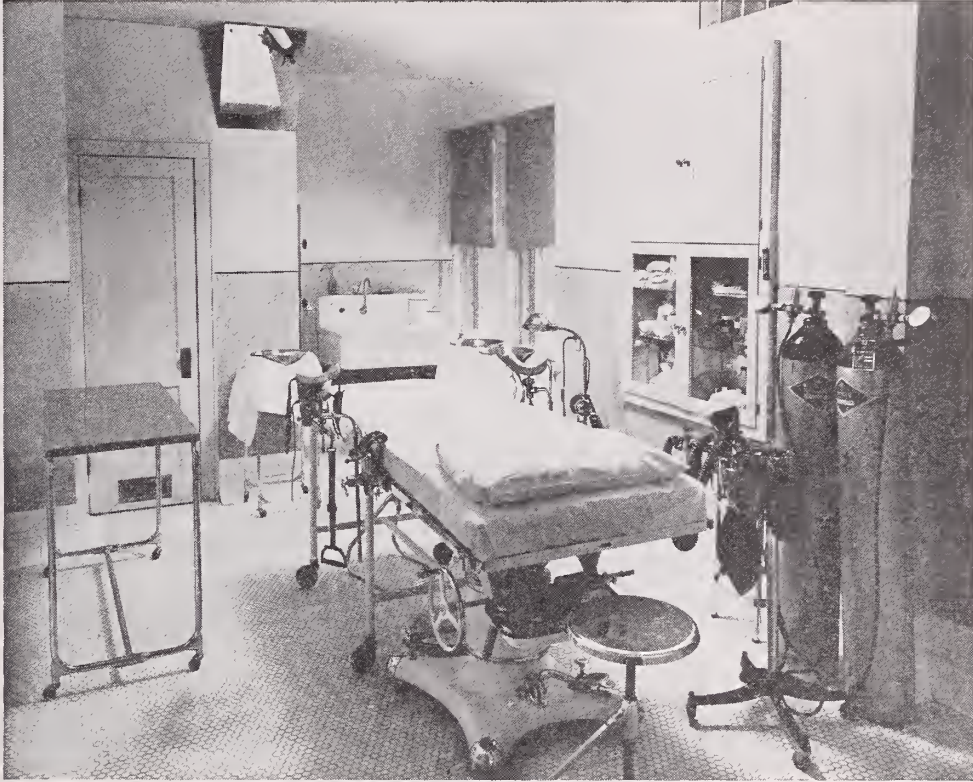
Nine Physicians Win Golf Trophies

Nine trophies and prizes were presented to winners in the annual Golf Tournament, held Monday, May 19, at the Oklahoma City Golf and Country club.

Dr. Zale Chaffin, Oklahoma City, was awarded the Buckley cup, as winner of the Low Medal Championship flight, and Dr. Hugh Jeter, Oklahoma City, as runner-up in the flight, won the Nestle's Milk Products, Inc., award.

In the Handicap flight, Dr. A. W. Pigford, Tulsa, was the winner of the Lev Prichard award, and Dr. Silas Murray, Tulsa, runner-up, won the Industrial Printing company award.

Winners in the Senior Championship flight were Dr.



There Are Facilities for Safe, Comfortable Child-birth at Polyclinic.

THIS DELIVERY ROOM IS AIR CONDITIONED

Physicians and patients alike find satisfaction in the air conditioned delivery room of Polyclinic's maternity department. In the moderately cool, freshened air the patient is in better physical condition and free of perspiration. Physicians and nurses perform their work in cool comfort.

Polyclinic's delivery room was especially designed and is equipped in the most modern manner. There are facilities for the proper administration of gas, with its gratifying relief from pain. Every device for safe-guarding mother and child is at the physician's hand.

MARVIN E. STOUT, M.D.
Owner

JOHN A. CUNNINGHAM, M.D.
House Surgeon

POLYCLINIC HOSPITAL

THIRTEENTH and ROBINSON

OKLAHOMA CITY

Albert Cook, Tulsa, who won first, and Dr. George R. Osborn, Tulsa, runner-up.

The Championship Bogey flight winners included Dr. Ned Burleson, Prague; Maj. N. L. Miller, M.D., Camp Berkeley, Texas; and Dr. C. B. Sullivan, Carnegie.

Those who contributed awards and prizes for the Senior and Bogey flights were the Caviness Surgical Supply company, the Veazey Drug company, the Roach Drug company, Wick's Drug Shoppe and the Alexander Drug company.

Women's Auxiliary Elects Officers

Mrs. Edward D. Greenberger, McAlester, presided as new President over the meeting of the Women's Auxiliary. Mrs. Greenberger succeeded Mrs. W. A. Fowler, Norman, as President.

Mrs. Frank L. Flack, Tulsa, was elected by the Auxiliary to serve as President-Elect for the 1941-42 term. Other officers elected at the meeting were Mrs. Rush Wright, Vice-President, Poteau; Mrs. Elbert H. Shuller, Secretary, McAlester; Mrs. L. S. Willour, Treasurer, McAlester; Mrs. A. R. Sugg, Historian, Ada, and Mrs. W. A. Fowler, Parliamentarian, Norman.

Committee Chairmen who were appointed for the new term are: Public Relations—Mrs. Charles Rayburn, Norman; Program and Health—Mrs. James Stevenson, Prague; Hygeia—Mrs. Frank L. Flack, Tulsa; Student Loan—Mrs. E. Eugene Rice, Shawnee; Press and Publicity—Mrs. Charles A. Smith, Oklahoma City; Exhibits—Mrs. J. W. Rogers, Tulsa; Convention—Mrs. J. W. Childs, Tulsa; Tray Award—Mrs. W. S. Larabee, Tulsa, and Organization—Mrs. Rush L. Wright, Poteau.

The Tray Award for 1940-41 was presented to the Pittsburg County Medical Auxiliary.

Memorial Service Held For Dr. Long

An inspiring part of the session was the Memorial ceremony to commemorate the distinguished service which the late Dr. Le Roy Long gave to the medical profession. On Mouday, May 19, in the Auditorium of the Medical School, Dr. L. S. Willour, McAlester, presented in behalf of the Association a Memorial Tablet to the University of Oklahoma. The Tablet was accepted for the University by President W. B. Bizzell, Normal.

• OBITUARIES •

Dr. Peter Cope White (1889-1941)

Dr. Peter Cope White, Tulsa, who was known throughout the state for his persistent fight against trachoma among the Indians, died May 26 in Tulsa. His death followed an appendectomy.

Doctor White was born in Carbondale, Pa., and was graduated from the Jefferson Medical School of the University of Pennsylvania. Serving his internship at the Manhattan Eye, Ear, Nose and Throat Clinic, Doctor White expressed early in his career his desire to specialize in the eye, ear, nose and throat field.

With his brother, Dr. Daniel W. White, who died nine years ago, Dr. White gained international prominence with their work in the treatment and technique of operation for trachoma, then the scourge of the Indians. In 1913, the two brothers published a paper on the subject, and became known as authorities on trachoma.

Doctor White came to Oklahoma in 1913 to join his brother, who was working among the Creek and Cherokee Indians under a government commission. It was then that the late Charles Page built a hospital for the brothers near Sand Springs. The hospital is now known as the Oakwood Sanitarium.

Later, the two doctors gave up the hospital and entered private practice in Tulsa.

Surviving Doctor White are his mother, a sister, Mrs. Peter J. McCormick; an aunt, Mrs. Dan W. Collins; two cousins, Mrs. Vera Noss and Miss Beatrice Collins, and two nieces and a nephew, all of Wilkes-Barre, Pa.

Dr. Calbert Harvey Beach (1861-1941)

Death deprived the Oklahoma State Medical Association of one of its most beloved members, when Dr. Calbert Harvey Beach, Glencoe, passed away, May 15, at the Municipal Hospital, Pawnee.

Doctor Beach was born at Racine, Wis., November 30, 1861. When he was 17 years old, he moved with his parents to Elk Falls.

He attended the Manhattan Agricultural college, Manhattan, Kan., and the Teachers' Normal school at Ft. Scott, Kan., then moved to Missouri, where he attended the Missouri School of Medicine, St. Louis, in 1885. After his graduation in 1889, he began the practice of medicine with Dr. J. T. Arnold at Gainseville, Mo.

In 1889, when Doctor Beach was visiting his two brothers, Charles and Will Beach, in Oklahoma, he made the run of the Cherokee Strip opening, from the southern border of the strip as far as Pawnee. In 1900, he returned to Oklahoma and built his home in Glencoe, where he remained until his death.

His survivors include his wife, Mrs. Eula Beach, Glencoe, and four children, Mrs. Celeste Purcell, Guthrie; Clyde D. Beach, San Francisco, Calif.; Mrs. Zola Cooke, Birmingham, Ala.; and Mark E. Beach, San Bernardino, Calif.

Dr. J. E. Jones (1864-1941)

On May 23, the Oklahoma State Medical Association lost one of its most beloved members with the death of Dr. J. E. Jones, pioneer citizen of Hollis. Death followed a series of heart attacks.

Doctor Jones, the first physician to locate in what is now Hollis, had celebrated 50 years of practice in March, 1940. It was in 1940, also, that he was voted an honorary member of the Association.

Doctor Jones was born in Tower Hill, Ill., December 28, 1864. After studying medicine, he entered the medical profession at Charity, Mo., where he remained for nine years. Then, he moved to the territory from which the town of Hollis later grew.

Surviving members of his family include his wife, Mrs. Florence Jones; three daughters, Mrs. H. F. Charlton, Mrs. Versie Giles, Miss Verle Jones; one son, James Edwin Jones, Jr.; two brothers, Lee Jones, Las Animas, Colo., and Green Jones, Midland, Texas; five grandchildren, James and Boothe Charlton, Margaret Giles Slaten, Jack Giles, and James Edwin Jones III; and two great grandchildren, Jimmy Giles Slaten and Jon Slaten.

House of Delegates Proceedings To Appear in July Issue

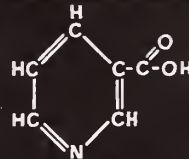
Because of the inclusion of the 1941 Membership Roster in the June issue of the Journal, the full proceedings of the House of Delegates at the Annual Session could not be carried in this issue.

A complete account of the House proceedings will appear in the July issue, however.

Summer Diarrhea in Babies

Casec (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 8 level tablespoonfuls of Casec. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of Dextri-Maltose may safely be added to the formula and the Casec gradually eliminated. Three to six teaspoonfuls of a thin paste of Casec in water, given before each nursing, is well indicated for loose stools in breast-fed babies. Please send for samples to Mead Johnson & Company, Evansville, Indiana.

Nicotinic Acid



Recognized As A Specific In Pellagra

Administration of nicotinic acid in appropriate doses in cases of pellagra generally leads to the disappearance of alimentary, dermal, and other lesions characteristic of the disease and to a profound improvement in the mental symptoms when the latter are the result of an inadequate intake of nicotinic acid.

Pellagra, however, is frequently accompanied by evidences of deficiencies of other factors of the vitamin B complex, such as polyneuritis (a manifestation of vitamin B₁ deficiency). In the diets of such patients it may be necessary to insure the presence of foods rich in the vitamin B complex, or to administer—concurrently with the nicotinic acid—thiamine hydrochloride, riboflavin, and, in some instances, pyridoxine hydrochloride.

Nicotinic acid is pyridine-3-carboxylic acid.

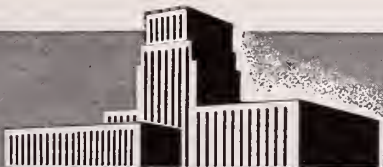
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NEWS FROM THE COUNTY SOCIETIES

About 11 members of the Garvin County Medical society were present at the meeting May 14 in Pauls Valley. Members discussed N.Y.A. examinations, and voted Dr. Hugh Monroe, Lindsay, to take charge of the program for the next meeting.

The Garvin society then adjourned for the summer months. Members will meet again in September at Pauls Valley, with Doctor Monroe as speaker.

Two guest speakers were presented at the regular meeting of the Grady-Caddo-Stephens counties' society May 15, in Chickasha.

Dr. Philip M. McNeill, Oklahoma City, reviewed papers of interest to the general practitioner which were presented at a recent meeting of the College of Physicians in Boston.

Dr. William L. Bonham, Oklahoma City, the other speaker, discussed "Sinusitis: Its Management by the General Practitioner."

About 30 members of the society were present. Following the program, informal entertainment was held for the wives of the physicians visiting from Oklahoma City, Duncan, Marlow and Anadarko and other towns.

The next meeting will be held June 19 at Chickasha, when the Stephens county members will be in charge of arrangements.

Dr. Coyne Campbell and Dr. Charles A. Smith, both of Oklahoma City, were the guest speakers at the May 12 meeting of the Okfuskee-Okmulgee counties' society in Okmulgee. About 22 members were present.

Doctor Campbell discussed "Neuroses," and Doctor Smith described the "Technic of Shock Treatment." Doctor Smith illustrated his talk with motion pictures.

The society will meet again June 9 at Okemah.

The Creek county society met May 13 at Bristow, with about 12 members in attendance. Speaker at the meeting was Dr. Ned R. Smith, Tulsa, who discussed "The Nervous Patient."

Members will meet again, June 10, at Sapulpa.

About 20 members of the Pottawatomie county society were present at the May 17 meeting in Shawnee.

The program, which was presented by Dr. John H. Lamb, Oklahoma City, Dr. Horton E. Hughes, Shawnee, and Dr. John McFarling, Shawnee, consisted of still and moving pictures of uncommon skin conditions.

The next meeting will be held June 21, in Shawnee.

Dr. R. K. Pemberton and Dr. F. T. Bartheld, both of McAlester, conducted a symposium on Obstetrics at the meeting, May 13, of the Pittsburg county society at St. Mary's hospital, McAlester.

Among the subjects of the prepared talks given by ten members were "Indications for Abortion," "Diabetes and Cardiac Disturbances in Pregnancy," "X-Ray in Obstetrics," and "Cervical and Perineal Lacerations."

Dr. W. P. Fite and Dr. E. H. Fite, both of Muskogee, will speak at the next meeting, June 20, at the Albert Pike hospital, McAlester. Their respective subjects will be "Transurethral Resection" and "Intracapsular Neck Fracture of Femur."

Members of the Pre-Clinical faculty of the Oklahoma School of Medicine presented the program at the Oklahoma County society meeting, May 27, in the Medical School auditorium. About 50 members were present.

Dr. Donald B. McMullen of the Department of Public Health, discussed "The Incidence of Intestinal Parasites in School Children." Dr. Frances C. Lawler, of the Department of Bacteriology, the other speaker, chose

"The Incidence of Monilia in the Gastro-Intestinal Tract" as his subject.

Following the program, the group adjourned until September 23, when they will meet again in the Medical School auditorium.

Another county group held its last meeting before adjournment for the summer months, when members of the Tulsa county society met May 26 at the Mayo Hotel, Tulsa.

Dr. Graham Asher, F.A.C.P., Kansas City, Mo., spoke on "Chemical, Nutritional and Clinical Factors Influencing the Administration of Digitalis." Dr. Asher, a graduate of the Rush Medical School, Chicago, is a Diplomat of the American Board of Internal Medicine, University of Kansas School of Medicine.

Three speakers composed the program of the Woods-Alfalfa county society meeting, May 27, in Cherokee. About 14 members were present.

The speakers were Dr. Charles E. Rombold, Wichita, Kan., who spoke on "Back Ache;" Dr. John H. Kleinhessel, also of Wichita, who spoke on "Diabetes," and Dr. Jack C. Parsons, Cherokee, who spoke on "Endocrines."

Following the program, Dr. L. T. Lancaster and Dr. H. E. Huston were hosts to the group at a barbecued steak and turkey dinner. The society then adjourned until September 30, when members will meet in Alva to begin arrangements for a series of pre-school clinics to be held by the Woods society.

Group Hospital Service News

Our Hospitals—Our Plans

National Hospital Day, May 12, provided the occasion for four groups to proclaim and reaffirm their interdependence in the common desire to provide hospital care to the American people. These groups are: hospital administrators and trustees, who coordinate paid personnel and scientific equipment; medical staffs, who assume primary and continuous responsibility for diagnosis and treatment; hospital service plans, which are a rational means for budgeting hospital care; and subscribers, who pay their subscriptions and receive the service.

Hospital service plans are dependent upon the guarantee of member hospitals for service to their subscribers. Enrollment representatives of approved plans may, in a very real sense, speak of "our Hospitals." Conversely, the hospitals, which sponsor and support the group budgeting plan in a community, are correct when they say "our Plan."

The medical staff and subscribers, in turn, may speak of both "our plan" and "our hospitals." The physician who determines which subscribers are to receive benefits under an approved hospital service plan also prescribes and directs the care in the member hospitals. The subscribers who contribute regular amounts with which to pay their bills also receive services in hospitals which are constructed and supported from community resources and contributions.

Each of the four groups—hospitals, doctors, plan, and subscribers—are component forces which have made the hospitals "guardians of health" for the nation. Their joint activities exemplify the combination of private enterprise and social responsibility which we designate with justifiable pride as "the American way of life."



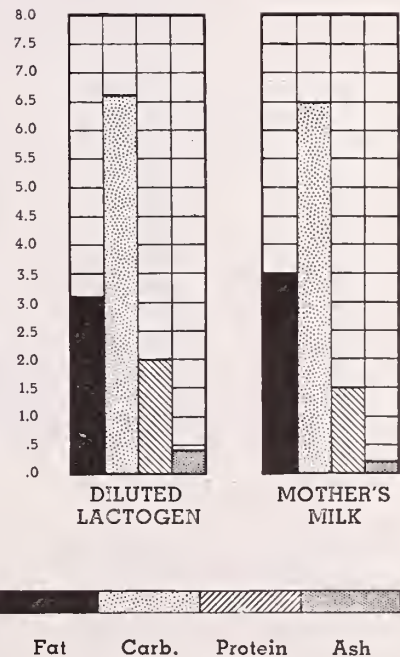
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John Lovett Morse, A. M., M. D.
Clinical Pediatrics, p. 156.



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University of Oklahoma School of Medicine

Dr. Paul C. Colonna, professor of orthopaedic surgery, was guest speaker of the Fifth Annual Meeting of the New Orleans Graduate Assembly, March 3 to 6. Doctor Colonna presented three papers: "The Treatment of Compound Fractures," "Nonunion of the Femoral Neck," and "The Painful Shoulder."

Dr. Berry Campbell, assistant professor of medicine, who has been on a leave of absence while studying at the Rockefeller Institute of Medical Research on a Guggenheim Fellowship, has been reappointed for a continuation of this fellowship for the scholastic year 1941-42. Dr. Russell L. Moseley will continue to fill his place in the Department of Anatomy—"ad interim."

All seniors in the School of Medicine have received their internships, and the following list gives the names of the senior students and the hospitals where they will serve as interns for the year commencing July 1, 1941:

NAME	HOSPITAL	ADDRESS
1. Aldredge, Wm. Max	St. Louis City Hospital	St. Louis, Missouri
2. Asher, James Ottley	Wesley Hospital	Oklahoma City, Oklahoma
3. Bener, Herman Robert	Broadlawns—Polk Co. Public Hos.	Des Moines, Iowa
4. Boyer, Harold Lester	New Rochelle Hospital	New Rochelle, New York
5. Brightwell, Richard J.	St. Anthony Hospital	Oklahoma City, Oklahoma
6. Buford, Elvin Lee	The Hamot Hospital	Erie, Pennsylvania
7. Cole, William Charles	Wesley Hospital	Oklahoma City, Oklahoma
8. Colvert, James Robert	Columbia Hospital	Milwaukee, Wisconsin
9. Colyar, Ardell Benton	Broadlawns—Polk Co. Public Hos.	Des Moines, Iowa
10. Davis, Wesley Warren	Good Samaritan Hospital	Portland, Oregon
11. Denyer, Hillard Earl	New Rochelle Hospital	New Rochelle, New York
12. Dodson, Harrell Chandler	State University Hospitals	Oklahoma City, Oklahoma
13. Drennan, Stanley Lewis	Orange County Hospital	Orange, California
14. Fair, Ellis Edwin	State University Hospitals	Oklahoma City, Oklahoma
15. Farris, Edward Merhige	Baltimore City Hospitals	Baltimore, Maryland
16. Fleetwood, Doyle Homer	Wesley Hospital	Oklahoma City, Oklahoma
17. Flood, William Robert	Alameda County Hospital	Oakland, California
18. Florence, Robert Wm.	Providence Hospital	Seattle, Washington
19. Freeman, Charles Winfred	Charleston General Hospital	Charleston, West Virginia
20. Goggin, Chester William	San Diego County General Hos.	San Diego, California
21. Guss, Louis	Beth Moses Hospital	Brooklyn, New York
22. Haberlein, Charles Robt.	Grace Hospital	Detroit, Michigan
23. Harms, Harold Harvey	University of Nebraska Hosps.	Omaha, Nebraska
24. Heilman, Elwood Hess	Hospital Division of the Medical College of Virginia	Richmond, Virginia
25. Hendren, Walter Scott	Baltimore City Hospitals	Baltimore, Maryland
26. Hesser, James Matthew	Presbyterian Hospital	Denver, Colorado
27. Hoffer, Maxine Ruth	Oak Park Hospital	Chicago, Illinois
28. Horn, John Edward	Central Dispensary and Emergency Hospital	Washington, D. C.
29. Hubbard, Wm. Ecton	Mercy Hospital	Denver, Colorado
30. Katz, Morris Elliott	Wm. W. Backus Hospital	Norwich, Connecticut
31. Kennedy, James Ralph	Mercy Hospital	Denver, Colorado
32. Lester, Eugene Fay	St. Vincent's Hospital	Erie, Pennsylvania
33. Love, Albert Joseph	Presbyterian Hospital—Olmstead Memorial	Hollywood, California
34. McClellan, Charles Wm.	Broadlawns—Polk Co. Public Hos.	Des Moines, Iowa
35. McKinnon, Jeanne Elise	Santa Barbara Cottage Hospital	Santa Barbara, California
36. McQuown, Albert Louis	University of Iowa Hospitals	Iowa City, Iowa
37. Montgomery, Hazel Irene	Sibley Memorial Hospital	Washington, D. C.
38. Mraz, Gerald Lincoln	St. Paul's Hospital	Vancouver, B. C., Canada
39. Overbey, Charles Brown	Emory University Hospital	Emory University, Georgia
40. Paris, David	Mary Immaculate Hospital	Jamaica, New York
41. Pearson, Daniel Bester	Wesley Hospital	Oklahoma City, Oklahoma
42. Points, Thomas Craig	Saginaw General Hospital	Saginaw, Michigan
43. Powell, Paul Thurston	Gallinger Municipal Hospital	Washington, D. C.
44. Reiff, William Henry	The University of Michigan Hospitals	Ann Arbor, Michigan
45. Rowland, Robert Hazel	University of Texas—John Sealy Hospital	Galveston, Texas
46. Salkeld, Phil Lloyd	Columbia Hospital	Milwaukee, Wisconsin
47. Sandlin, Dean Clifford	Good Samaritan Hospital	Portland, Oregon
48. Sanford, Roy Keith	Colorado General Hospital	Denver, Colorado
49. Shofstall, Wm. Howard	University of Kansas Hospital	Kansas City, Kansas
50. Smith, Paul Frederick	Missouri Methodist Hospital	St. Joseph, Missouri
51. Taylor, Lloyd Wilson	Central Dispensary and Emergency Hospital	Washington, D. C.
52. Weeks, Bertram Allen	The Station Hospital, Fort Sam Houston	San Antonio, Texas
53. Witt, Richard Earl	St. Anthony Hospital	Oklahoma City, Oklahoma
54. Word, Emery France	St. Paul's Hospital	Vancouver, B. C., Canada

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BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

WINSTON CHURCHILL—A BIOGRAPHY, By Rene Kraus. Price \$3.00. Philadelphia-New York: J. B. Lippincott Company.

For all doctors who are overworked, underpaid, growing tired and feeling glum; who think their professional foundations are being undermined, their cherished traditions destroyed and that the precarious present is not worth their best and the future not worthy of hope and persistent striving for a goal, we recommend *Winston Churchill* by Rene Kraus.

No one can read this book without being enlightened and inspired; without realizing the unique genius, undaunted courage and astounding foresight of Mr. Churchill. The reading brings a growing consciousness of his greatness and a chastening sense of the reader's inadequate response to life. The depth of Mr. Churchill's generous philosophy, the scope of his imagination, his elevation of purpose, his originality, rectitude, fertility, precision, variety, flexibility, and level vision, should inspire us to carry on even in the face of "blood, toil, tears and sweat," and if need be, to accept the "black-out without gloom."

When the last chapter is read and the book closed, one is in the mood for Mordaunt's "Sound, Sound the Clarion," which closes with these lines:

"One crowded hour of glorious life
Is worth an age without a name,"—L.J.M.

AS I REMEMBER HIM: THE BIOGRAPHY OF R.S.

By Hans Zinsser. Price \$2.75. Boston: Little, Brown and Co., 1940.

Almost a whole generation of physicians will recall Hiss & Zinsser "Textbook of Bacteriology." Most of us naturally assumed its authors to be unimaginative compilers of endless and somewhat uninteresting scientific facts. That nothing could be farther from the truth is apparent to those who have read Dr. Zinsser's autobiography. "As I Remember Him: The Biography of R.S.," is a transparently disguised autobiography written in both the third person as the biographer, and the first person as being quoted from R.S. At first this might seem a bit confusing but in reality it lends a certain degree of objectivity and avoids too much repetition of "I."

In essence, the book consists of a series of somewhat disconnected chapters on his background, education, hospital days, experiences in Serbia, Russia, Japan, China and Mexico. But what makes the book by all odds the best in the field of medical literature, and for that matter, gives it a high place in the field of any literature, is his magnificent ability for digression. These digressions consist of detached observations about a wide variety of subjects such as education, college presidents, women, wine, socialization of medicine, literature psychoanalysis and religion.

The general tone of the book is that of reminiscence interspersed with philosophical reflections and crystal clear discussions of the relations of one's life to the world in general.

R.S.'s contemplation of his own impending death is as remarkable and as dignified a contribution as one will find in English literature. (Dr. Zinsser died Sept. 3, 1940, of leukemia):

"As his malady progressed, he had another variety of experience which, to some others more conditioned to religious belief than he was, might have signified an intimation of the separateness of body and soul. He said to me: 'Here I am, me as always. My mind more alive and vivid than ever before; my sensitiveness

keener; my affections stronger. I seem for the first time to see the world in clear perspective; I love people more deeply and more comprehensively; I seem to be just beginning to learn my business and see my work in its proper relationship to science as a whole; I seem to myself to have entered into a period of stronger feelings and saner understanding. And yet here am I—essentially unchanged except for a sort of distillation into a more concentrated me—held in a damaged body which will extinguish me with it when it dies. If it were a horse I was riding that went lame or broke its neck, or a ship on which I was traveling that sprang a leak, I could transfer to another and leave the old vehicle behind. As it is, my mind and my spirit, my thoughts and my love, all that I really am, is inseparably tied up with the failing capacities of these outworn organs.' . . .

"As his disease caught up with him, R.S. felt increasingly grateful for the fact that death was coming to him with due warning, and gradually. So many times in his active life he had been near sudden death by accident, violence, or acute disease; and always he had thought that rapid and unexpected extinction would be most merciful. But now he was thankful that he had time to compose his spirit, and to spend a last year in affectionate and actually merry association with those dear to him." . . .

The Journal of the American Medical Association has no reputation for rave notices, but says: "Words fail to give any adequate picture of this exceptional book—again the reviewer can only say that the physician who fails to read it and re-read it again and again is depriving himself of some of the finest hours that literature can afford to a thoughtful man."—W.W.R., Jr.

PRINCIPALS OF SURGICAL CARE—SHOCK AND OTHER PROBLEMS. Alfred Blalock, M.D. C. V. Mosby Company.

This book should be in the hands of every progressive surgeon. It deals with the diagnosis and treatment of most of the conditions that cause grief to a surgeon, namely; complications. It covers all of the major and minor postoperative complications in a clear and concise manner.

Surgical technique, per se, is not included in any detail. However, it is mentioned repeatedly with caution in regard to tissue trauma.

The section on circulatory failure and shock is as complete a resume of recent work as can be found in late literature. It discusses the subject thoroughly, both from etiological and therapeutic standpoints. Doctor Blalock is one of the nations leading investigators in this field, and he has made many valuable contributions to our literature in the past ten years. This section alone is worth many times the price of the book. No surgeon can read it without gaining a much better insight into this important complication.

Such subjects of vital importance as hypoproteinemia, acid-base and nutritional disorders, fluid and electrolyte disorders, and endocrine dysfunction are also covered in a fascinating manner.

Doctor Blalock discusses the choice of anesthetics for most of the major surgical procedures. He is conservative and unbiased in his comments and conclusions. He prefers not to use cyclopropane because of its high explosive qualities, and he advises against operating above the umbilicus with spinal anesthesia. The gas-oxygen-ether combination is recommended as the best general anesthetic available at this time.

In present day surgery the operation is only part of the cure of the patient. Therefore, surgeons are devoting

more time and study to the disorders of metabolism and nutrition, and are making strides in the correction of them. The result of this is a decrease in morbidity and mortality, and it also means that many bad-risk patients may enjoy the advantages of the good-risk patients.

This book covers the subjects mentioned, together with many other important surgical subjects, completely and yet briefly. It is concise enough for a quick review, and complete enough for a permanent reference book. I heartily recommend it to the surgical specialist and to the general practitioner.—E.B.N.

COFFEE: A COLLECTION OF MEDICAL ABSTRACTS, Foreword by Milton A. Bridges, M. D., 64 pages. Published by the Pan American Coffee Bureau.

This scientific bibliography, with accompanying pertinent excerpts in condensed form from each reference, is the latest of its kind on coffee. Its purpose is best expressed by the late Dr. Milton A. Bridges in the foreword:

"Coffee has been the focus of so much exploitation, both honest and dishonest, both warranted and unwarranted, that a brief resume of the scientific viewpoint on the subject should be of interest . . . international literature has been carefully searched . . . the gleanings are here presented in abstract form with no differentiation between favorable or unfavorable reports."

The synopsis are arranged in alphabetical order according to authors. Accompanying the title and author of each source is a concise summary of the individual author's reference to coffee and caffeine, and the pages upon which the complete text may be found. Excerpts are based upon clinical research and observation, laboratory tests, and other studies. The book is indexed. Titles and authors include: *Materia Medica*, W. A. Bastedo; *Digestive Disorders*, Albert W. Bauer; *A Textbook of Pharmacology and Therapeutics*, Arthur R. Cushny; *Your Diet and Your Health*, Morris Fishbein, and 120 others.—L.S.W.

HOW TO PREVENT GOITER, By Dr. Israel Bram, Medical Director, Bram Institute for Goiter and Other Glandular Disease; former Instructor in Clinical Medicine, Jefferson Medical College, Philadelphia; Fellow of the American Medical Association. 182 pages. Published by E. P. Dutton and Co., Inc., N. Y. City.

This book is written to reach the over 7,000,000 Americans who suffer from goiter and other glandular diseases. Written in an untechnical style, it sets forth for the layman the simple rules of physical and mental conduct which help prevent disturbances of the thyroid. In words often telling of his own experiences with thousands of patients, he points out that disturbances of the thyroid are among the easiest of human ailments to prevent and cure.

It is not written as a medical book nor is it offered as a substitute for the physician.—L.S.W.

"Variety Drug Store" May Be Passing

A prediction that the modern "drug store" with its many different lines of goods will in time stop selling prescriptions and that up-to-date pharmacists' shops will take over this function exclusively was made by Emerson G. Wulling, Ph.D., La Crosse, Wis., in the December issue of *Hygeia, The Health Magazine*.

Dr. Wulling attributes the "variety store" drug store to the influx of too many pharmacists and the fact that large manufacturing concerns arose with lines of pharmaceuticals. "With more pharmacists and less pharmaceutical work, the profession had to turn to other lines. A drug store became a variety store."

He points out, however, that now pharmaceutical instruction is centered in universities and requirements are much higher.

"Pharmacy, the real thing, is advancing at a thoroughly satisfactory pace and serving its important part in the health program."

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REVIEWS and CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments From
LeRoy Long Clinic
714 Medical Arts Building, Oklahoma City

"Are the Anterior Pituitary-Like Substances Gonadotropic?" By Willis E. Brown, M.D., James T. Bradbury, D.Sc., Ann Arbor, Michigan, and Ida Metzger, M.D., Ypsilanti, Michigan. *American Journal of Obstetrics and Gynecology*, April 1941, Vol. 41, No. 4, Page 582.

The authors call attention to the fact that anterior pituitary-like substances from human pregnancy urine have produced well-known gonadotropic response in the mouse and rabbit but this response has not been found consistently throughout laboratory animals, nor has it been duplicated in the human female in any manner that will stand critical evaluation.

Therefore, "the present study was arranged to determine by clinical experimentation whether the anterior pituitary-like extracts of pregnancy urine have any demonstrable effect on the human ovary."

For this purpose, a reasonably small group of patients was studied with daily injections of 500 R. U. of antuitrin-S for four or six weeks. Since a reasonably large percentage of those with normal menstrual rhythm so treated experienced a subsequent amenorrhea confused by an occasional anovulatory bleeding, and since those with amenorrhea did not have uterine bleeding re-established by the administration of the drug, the authors have come to the following conclusion:

"In view of this demonstrated suppression of ovarian activity, there would be no indication for the use of the anterior pituitary-like substances in ovarian hypofunction. The apparent success of antuitrin-S in some cases of functional bleeding can be more satisfactorily explained as the result of a suppression of ovarian follicles, so that the endometrium is relieved of a prolonged estrogenic stimulation. A total dose of 8,000 R. U. over a period of two weeks produced a four months' amenorrhea in one of our patients who had been bleeding continuously for eight months.

Twelve patients with a normal menstrual rhythm were given 500 R. U. of antuitrin-S daily for four or six weeks. The majority of these patients did not show any significant alteration in rhythm. Five (42 per cent) experienced an amenorrhea of from one to five months following treatment. This induced amenorrhea was accompanied by a progressive atrophy of the endometrium, indicating a suppression of ovarian follicles.

Antuitrin-S failed to establish uterine bleeding in patients with amenorrhea. No evidence of ovulation or luteinization, as demonstrated by a secretory endometrium, was found.

On the basis of this experiment it appears that the anterior pituitary-like substances are not gonadotropic in the human female and in sufficient dosage may even be gonadotoxic."

"The Effect of Combined Administration of Chorionic Gonadotropin and the Pituitary Synergist on the Human Ovary." By Charles Mazer, M.D., and Elkin Ravetz, M.D., Philadelphia, Pennsylvania. *American Journal of Obstetrics and Gynecology*, March 1941, Vol. 41, No. 3, Page 474.

This is the interesting report of a small group of

patients treated by a combination of relatively small quantities of chorionic gonadotropin and pituitary gonadotropic extracts.

"In the human subject, in whom neither chorionic gonadotropin nor pituitary extracts exerts any appreciable influence on the ovaries, (the latter because of lack of concentration), the combination of relatively small quantities of each produced definite stimulation and overstimulation of the ovaries in 20 of 23 patients who received the product preoperatively.

Therapeutically, the combination of chorionic gonadotropin and the anterior pituitary extract evoked one or more menstrual flows in 19 of 23 severely amenorrheic women, some of whom had not menstruated for years, despite all other forms of treatment. Only two have thus far menstruated with further treatment.

Injections of the combined extracts arrested dysfunctional uterine bleeding in 14 of 18 patients (four of whom were puberal girls).

Only two of eight women in whom anovular menstruation was presumably the main cause of the barrenness conceived promptly. Overdosage and the presence of other etiologic factors partly explain the lack of responsiveness of this group of patients.

The increased effectiveness of chorionic gonadotropin with the addition of a pituitary extract containing very little of the gonad-stimulating hormones is variously explained as follows:

1. That it represents merely the expression of the combined physiologic activity of the two gonadotropins.

2. That chorionic gonadotropin probably converts a prohormone, supposedly present in the pituitary extracts, into an active gonad-stimulation hormone.

3. That most anterior pituitary extracts contain a principle capable of converting chorionic gonadotropin into a universal gonad-stimulation substance."

"Some Observations on the Gynecic Employment of Equine Gonadotropins." By E. C. Hamblen, M.D., Durham, N. C. *American Journal of Obstetrics and Gynecology*, March 1941, Vol. 41, No. 3, Page 495.

"1. Equine gonadotropins may stimulate ovaries which possess normal sensitivity to pituitary stimuli.

2. Equine gonadotropins are of value therapeutically in those women whose ovarian failure is due to deficient pituitary function.

3. The effects of equine gonadotropins are often temporary, the pituitary failure and the secondary ovarian failure recurring.

4. This last statement has a bearing upon the handling of pregnancy secured by this form of therapy. Intercurrent ovarian failure and abortion should be anticipated and prophylactic treatment instituted.

5. The combined one-two employment of equine and chorionic gonadotropins has proved more effective than the use of cyclic equine gonadotropic therapy alone.

6. Cyclic gonadotropic therapy in our hands fails to insure cyclic bleeding, thus indicating inadequate production of complete ovarian responses.

7. Equine gonadotropic therapy is only one of the methods available for the treatment of ovarian failure."

COMMENT: These three articles are valuable contributions when considered together since they represent our present gonadotropic agents.

The requirements of a satisfactory gonadotropic agent must be the induction of follicular growth, ovulation, and luteinization in the ovaries of the human female.

Though present pituitary gonadotropic extracts, if given in large quantities, may produce these effects in immature animals, they are insufficiently concentrated at present for therapeutic use.

The gonadotropic substance in the blood of pregnant mares has apparently had some effect in the treatment of sterility due to anovulatory menstruation, but it has not been effective in the treatment of the more common menstrual disorders of amenorrhea and so-called functional uterine bleeding.

The first article in this series reasonably well demonstrates the status of the gonadotropic influence of substances in human pregnancy urine.

By far the most important and interesting feature of this series of articles lies in the apparent synergistic effect between pituitary extracts and the anterior pituitary-like substances in pregnancy urine. This is similarly true in the observation of Hamblen in the apparent synergistic action of pregnant mares serum and chorionic gonadotropin.

The importance of this work lies in the fact that a satisfactory gonadotropic agent which will produce follicular growth, ovulation, and luteinization, will do more than anything else thus far to assist in the control of ovarian function and its consequent problems of sterility and menstrual irregularities.

There is adequate evidence in this series of investigations to cause one to be particularly cautious in the promiscuous employment of all of these so-called gonadotropic substances.

Wendell Long.

"Spinal Anesthesia and Surgical Shock." By Harry Koster, M.D., Arthur Shapiro, M.D., and Aaron Goldberg, B.S., Brooklyn, N. Y. *Archives of Surgery*, April 1941, Volume 42, Number 4, Page 795.

Marked fall in blood pressure during an operation with general or local anesthesia is usually accepted as an indication of severe hemorrhage, surgical shock or both. For this reason many surgeons believe that the fall in blood pressure which regularly accompanies induction of spinal anesthesia has equally grave significance. Methods have been introduced either to prevent the fall in blood pressure or to raise the blood pressure after it has reached what is considered a dangerously low level. Many also believe that spinal anesthesia is contraindicated in the presence of the hypotension secondary to traumatic shock, hemorrhage and peritonitis.

Dr. Koster some time ago concluded that the fall in blood pressure, accompanying spinal anesthesia, no matter how marked, is not of great significance and that hypotension per se is no contraindication to the use of spinal anesthesia. He believes that there is a marked difference between the circulatory status of patients under spinal anesthesia and that of patients in surgical shock.

Recent studies by Blalock and others have shown that in cases of surgical shock not accompanied with hemorrhage, the fall in blood pressure is preceded by marked hemoconcentration. Some even believe that hemoconcentration, as evidenced by a rise in the red cell count, the hemoglobin concentration or the specific gravity of the whole blood, is a better index of the presence and severity of surgical shock than is a fall in blood pressure.

These authors in an effort to determine whether the fall in blood pressure which occurs during spinal anesthesia is similar to that associated with surgical shock, studied the blood pressure and the concentration of hemoglobin in the blood before, during, and after spinal anesthesia.

In seven patients the blood pressure, pulse rate and concentration of hemoglobin were followed before, during and after spinal anesthesia. In ten patients the blood pressure, pulse rate and specific gravity of the serum were similarly studied.

Their results would indicate that the value for hemoglobin and the specific gravity of the blood serum fall slightly with the onset of spinal anesthesia and return gradually to their initial level.

They have found an absence of hemoconcentration with spinal anesthesia. This suggested to them a re-examination and reconsideration of the idea entertained by many surgeons that there is a similarity of the clinical status of patients in surgical shock to that of patients under spinal anesthesia.

They have proved to their satisfaction that the characteristics of the clinical status of patients in surgical shock and under spinal anesthesia are fundamentally different.

Of 17 characteristics compared, spinal anesthesia and surgical shock showed in their experiments complete similarity in only two characteristics. These were the appearance of the face and the presence of vomiting. They thought there was some similarity in moisture of the skin, thirst, venous pressure and mental attitude. They thought that the fall in blood pressure (which many of us have regarded a cardinal point in the similarity between surgical shock and spinal anesthesia) actually has a quite different characteristic in each.

They found that in the presence of shock the fall in blood pressure occurs late, after compensatory vasoconstriction no longer is effective in maintaining the normal level of blood pressure. By this time hemoconcentration is already marked. On the other hand, in the presence of spinal anesthesia, they found that the blood pressure falls early, and hemoconcentration does not occur.

Their conclusion is that "reasoning concerning indications or contraindications for spinal anesthesia, based upon the supposed analogy between its effects and the state of surgical shock is not valid."

COMMENT: Dr. Koster has been a spinal anesthesia enthusiast for many years. While some of us may be unduly concerned about the fall in blood pressure under spinal anesthesia, and may give that hypotension more serious consideration than it deserves, it is my personal opinion that we should continue to exercise care in selecting patients for spinal anesthesia.

LeRoy D. Long.

"Nipple Discharge, A Clinicopathologic Study." By Paul R. Hinchey, M.D., Salem, Massachusetts. *Annals of Surgery*, March 1941, Vol. 113, No. 3, Page 341.

The author gives a report based on the clinicopathologic study of 67 patients who had discharge from the nipple. These were the cases seen in the Tumor Clinics of the Massachusetts General Hospital and the Boston Dispensary over a 14½ year period.

Frequency: Some type of discharge from the nipple occurs in about eight per cent of all mammary lesions.

Type: A sanguineous discharge should arouse more concern than a nonsanguineous one. A duct papilloma often causes a serosanguinous discharge. A duct carcinoma commonly causes a dark bloody discharge. A grumous, greenish yellow discharge is almost always due to stasis in dilated ducts. A continuous, milky discharge is galactorrhea.

Etiology: The author found carcinoma to be the most frequent cause for nipple discharge, followed by chronic cystic mastitis and then duct papilloma and hormonal dysfunction.

Pathology: (1) Carcinoma—Twenty-two cases. Ten had bloody discharge. Twelve had nonsanguineous discharge. The author feels that there has been undue emphasis placed on the bloody nature of nipple discharge. The bleeding breast, however, must be suspected of harboring not only a papilloma or precancerous epithelial hyperplasia, but even an actual palpable carcinoma. The entire breast should be removed in those cases of nipple bleeding wherein no localized focus is clinically demonstrable.

(2) Chronic cystic mastitis—Eighteen cases. The discharge was bloody in seven, serosanguineous in four, milky in three, greenish in three, and brownish in three. Ten of the 18 had intraductal papillary epithelial hyperplasia.

The conclusion seems warranted that in cases of nipple discharge associated with a nodular breast, particularly if the discharge contains blood, the majority of such breasts will show epithelial hyperplasia. There is accumulating an increasing volume of evidence to suggest that cystic disease with epithelial hyperplasia is precancerous.

(3) Duct papilloma—Seven cases. Two had a nonsanguineous discharge. Six simple mastectomies were done, but frequently the lesion can be removed by local excision. Adair has estimated that it requires ten to twelve years for these lesions to become malignant, and that a palpable mass always presents itself. However, this has been proven false, as there have been a number of cases in which malignancy transformation occurred with only nipple discharge being present.

(4) Discharge from hormonal dysfunction—Seven cases. None were operated upon. Three had milky discharge, three brownish or serosanguineous discharge, and one a mucous discharge. There were no masses, cysts or nodules.

(5) Inflammatory cysts—Three cases. All had a circumscribed mass in the central portion of the breast with discharge varying from bloody to milky.

(6) Fibrous mastitis—Two cases in which a breast was removed because of bloody discharge showed a pronounced increase in breast stroma accompanied by apparent atrophy of the epithelial elements. One patient was 33 and the other was 71.

Treatment: The group of patients in whom both tumor and discharge are present arouse no controversy. The presence of the mass is an indication for surgery. The troublesome and dangerous problem is the discharging breast which contains no mass. The author states that there are five groups of patients with nipple discharge and no tumor in which there are definite indications for surgery. They are:

(1) Nipple discharge with positive illumination. Here, local excision of the offending duct is indicated. However, block excision of a segment or mastectomy may be required, depending on the extent and distribution of the papillomatous lesions.

(2) Nipple discharge with positive pressure test. Here, excision of the duct should be undertaken.

(3) Nipple discharge with localized nodularity in the breast. A biopsy should be taken and if hyperplastic epithelium is found, a quadrant excision or simple mastectomy is in order.

(4) Nipple bleeding after menopause. In these cases the threat of cancer is so real, and the psychic and cosmetic arguments against mastectomy are so slight, that a simple mastectomy should be advised.

(5) Continued bleeding of undetermined origin (one month or more). The entire breast should be removed in all such cases.

COMMENT: This is a valuable contribution on a practical and important subject. In the main, one is very enthusiastic in his endorsement of the preparation of this paper and the conclusions, but there are certain features that need clarification.

It is entirely correct that a sanguineous discharge from the nipple should produce immediate suspicion and treatment. However, there seems to be less respect for nonsanguineous discharge than this condition deserves. A discharge from the nipple, whether it is bloody or not, usually indicates a certain degree of intraductal epithelial hyperplasia, ordinarily papillary in type, and more frequently than not the type of tissue in which a malignancy is subsequently superimposed. We have in this paper evidence of this importance of nonsanguineous discharge. There were 12 out of 22 carcinomas which had nonsanguineous discharge. Ten out of 18 chronic

cystic mastitis patients had intraductal papillary epithelial hyperplasia. Two out of the seven duct papillomata had a nonsanguineous discharge.

It would therefore seem quite apparent that nonsanguineous discharge from the nipple must be looked upon with great suspicion as an associated symptom with intraductal hyperplasia.

In this article one finds it difficult to understand how the diagnosis of hormonal dysfunction was reached, particularly when three of these patients had a brownish or a serosanguineous discharge. None were operated upon, and one must maintain the suspicion of these patients as having actual intraductal changes which were not properly appreciated.

The author has likewise attempted to be more than fair in discussing the treatment of the discharging breasts with no mass. This is to be observed in the first two categories he considers. In the first, "nipple discharge with positive illumination," there arises considerable question as to whether a mass, capable of local excision, could be identified by illumination and could not be palpated. Similarly, excision of the duct only in patients with a positive pressure test is far more difficult of actual precise consummation than it would appear from this article and, while theoretically good, the principal is not a very practical one.

In substance this article is a splendid one which calls attention again to the tremendous importance of discharge from the nipple whether it be sanguineous or nonsanguineous in character.

Wendell Long.

"Sulfonamide Therapy As An Aid To Surgery." By John S. Lockwood, M.D., Philadelphia, Pennsylvania. Surgery Gynecology and Obstetrics, February 15, 1941, Volume 72, Number 2A, Page 307.

Bacteria obtain their food by altering the constituents of the body tissues to suit their own particular needs. They cannot make direct use of large unsplit molecules of protein. These molecules must first be broken down into the simpler amino acids or polypeptides through the action of enzymes. It is here that the sulfonamide compounds produce their effects. These compounds resemble certain chemical substances which are essential to bacterial nutrition, of which one, at least, appears to be p-aminobenzoic acid. The molecules of the sulfonamides are believed to cover up the points of molecular reactivity on the bacterial surface and thus prevent the coupling of p-aminobenzoic acid to the enzyme. If the molecules of sulfonamide greatly outnumber the molecules of p-aminobenzoic acid, the bacteria cease to multiply and die.

P-aminobenzoic acid is probably only one of a group of substances which act as inhibitors of sulfonamide bacteriostasis. Sulfonamide inhibitors are also present in peptone and most enzymatic digests of protein. Pus and necrotic tissue contain large amounts of sulfonamide inhibitors.

In some lesions, such as erysipelas, the concentration of drug required to bring about death to all the streptococci is low, perhaps only 1 or 2 milligrams per cent. However, in lesions characterized by early necrosis such as staphylococcal cellulitis, a concentration of 15 or 20 milligrams per cent may merely check the spread of the condition.

The amount of drug required for treating urinary tract infections is not great because sulfonamides are excreted by the kidneys in active form in high concentration in the urine.

The anatomical location of an infection, with particular respect to the capacity of the phagocytic defense in the area influences the curative effects of the sulfonamides. As for instance, the *Clostridium welchii* produces an infection in the peritoneum of a rabbit or mouse which can be controlled by the sulfonamides, whereas the same organism injected intramuscularly causes an infection which is unaffected by the drugs.

The amount of sulfonamide inhibitor in newly infected

tissue or in the blood stream and lymphatics is apparently not great, so that maximal bacteriostatic action of the drug is obtained. After localization and necrosis, sulfonamide inhibitors are released and the sulfonamide has little effect on the suppurative component of the infection. Here surgical drainage is of paramount importance.

COMMENT: The author presents here a hypothesis of the mechanism of the action of sulfonamide compounds which we feel conforms with most of the clinical and experimental data that we have. A careful study of Dr. Lockwood's article may help us to use the sulfonamides intelligently and effectively rather than in any hit or miss fashion.

Warren Poole.

"The Diagnosis and Treatment Of Acute Diseases of the Abdomen In Children." By M. Tischer Hoerner, M.D., F.A.C.S. *The American Journal of Surgery*, April 1941, Vol. LII, No. 1, Page 3.

"There are some acute surgical conditions frequently encountered in children which are rare in adults. Acute diseases common to both childhood and adult life may manifest themselves differently in the young and require different forms of treatment. In children, it is not unusual for pathological lesions situated in distant parts of the body first to produce referred symptoms in the abdomen. A different technic should be employed when examining young individuals. Success in diagnosis depends upon the ability of the physician to manage the patient.

There is no age limit for appendicitis. The disease in the young is notorious for the rapidity with which it progresses. Prompt diagnosis and removal of the organ before perforation occurs assures recovery. Even when rupture has taken place, eradication of the source of infection offers the best hope of a favorable outcome.

The causes of acute intestinal obstruction in children are not always the same as those found in older patients. Young individuals are unable to tolerate the shock, dehydration and toxemia which accompany the condition. The mortality is high unless immediate relief is obtained.

Intussusception is the most common surgical emergency encountered in infants under two years of age. Reduction constitutes the only safe method of treatment which assures a good chance of recovery. As this is possible only during the early stages of the disease, prompt diagnosis and immediate surgical intervention are necessary to save the child's life.

The urachal remnant and Meckel's diverticulum are uncommon sources of acute abdominal disease. Nevertheless, these structures, as well as abdominal tumors and lesions of the biliary system must be kept in mind when dealing with acute abdominal disease in children."

COMMENT: This is a good article and serves to remind us of the important differences between adults and children that must be constantly kept in mind by the surgeon.

LeRoy D. Long.

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M. D.
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"The Surgical Treatment of Syphilitic Optic Atrophy Due To Chiasmal Arachnoiditis." By Louis Hausman, M.D., New York. *American Journal of Ophthalmology*, February, 1941.

Already in 1937, the author described the symptoms of failing vision and primary optic atrophy due to syphilitic arachnoiditis of the optic chiasm and nerves. He

has been suspecting the chiasmal lesion as the cause of certain syphilitic optic atrophies since 1932, but not until 1936 was he able to substantiate such a supposition by findings at operation. In that patient the optic chiasm and nerves were exposed and found to be enveloped by dense adhesions, which were freed by blunt dissections. Soon thereafter the vision of the patient began to return.

The present report includes follow-up notes on this patient observed over a period of two years, together with a report of two additional cases in which operation was performed for the same condition and likewise revealed adhesions around the optic chiasm.

The first patient was a Negro 26 years old. She complained of anosmia and progressive loss of vision. The left eye was blind, except for a small sector. In the right eye there was a temporal hemianopsia. The fundi showed bilateral primary optic atrophy. The Wassermann reaction of the blood was four plus. A craniotomy was performed, and the chiasmal adhesions released by blunt dissection. There was immediate improvement in vision. The improvement continued steadily so that two years after operation uncorrected visual acuity in the left eye was 16/15 and in the right eye 16/15-2. Color vision also returned in both eyes. The visual field also enlarged in both eyes. Simultaneously, the patient was put on antisyphilitic treatment (bismuth injections). Despite this marked improvement in vision, the bilateral primary optic atrophy has remained unchanged, and the discs are now as white as they were before the operation.

The second patient was a 44-year-old Negro. His complaint was pain in the abdomen and progressive loss of vision. The loss of vision in both eyes was of long standing. Vision was so bad that the patient needed a constant escort. In the left eye there was only light perception; in the right eye the visual acuity was 2/200. The color vision was impaired and the fields of vision were somewhat restricted. There was bilateral primary optic atrophy. A craniotomy was performed, and the region of the optic chiasm exposed. At the base of the skull near the optic chiasm were numerous bands and adhesions completely encircling both optic nerves and apparently compressing them. The adhesions were freed by blunt dissection. After the operation there was a slow improvement in visual function, and it was less marked than in the first case. Yet, this was to be expected in view of the long-standing history of visual impairment in both eyes. At present, the patient can move around without escort, and the gain in acuity has not regressed. This patient is interesting, also, because no conservative antisyphilitic treatment was able to arrest the gradual decline in vision, and the patient would have become blind inevitably without a surgical intervention.

The third patient was a 39-year-old white woman. Her progressive loss of vision was due to an unsuspected syphilis, which she acquired from her husband. The patient was blind in both eyes, for two years in the right eye and for nine months in the left eye. There was bilateral primary optic atrophy, and the patient could not recognize objects held close to her eyes, nor could she count fingers even at a short distance. The charting of visual fields showed general peripheral contraction. Neither of the pupils reacted to light. She was given antisyphilitic injections of bismuth and nearsphenamine, but the injections did not help vision.

The craniotomy and the exposure of the chiasmal region showed a definite grayish, weblike structure binding down the optic nerve. It stretched across to the left side from the right side, and posteriorly enveloped the entire chiasm. When this adhesive process was freed, an excellent view was obtained of the chiasm and both optic nerves, which appeared to be normal. Immediately after the operation, the patient showed improvement in vision. Already on the first day she was able to count fingers; six days later she could identify small objects held at one and a half feet. Thirty-six days after the operation the visual acuity in the left eye was 2/200. And six and

a half months later she could read headlines of newspapers. The improvement in the right eye was much slower and to a lesser extent. The final improvement is still to be expected.

Cases manifesting the syndrome of syphilitic chiasmal arachnoiditis have hitherto been diagnosed as tabetic optic atrophy. Yet, one should know that adhesions may exist at the base of the brain in cases of syphilitic primary optic atrophy, with or without signs of tabes dorsalis in the spinal cord. This should be kept in mind, and, if adequate antisyphilitic treatment fails to arrest the progress of visual impairment in syphilitic optic atrophy so that blindness threatens, the patient should be acquainted with the prospects of a surgical intervention. When blindness is imminent, no reasonable therapeutic measure should be ignored.

"Recurrent Erosions of the Cornea." By Maxwell Thomas, M.D., Dallas, Texas. Southern Medical Journal, April 1941.

The recurrent erosion is a symptom of many corneal diseases. It is, as Fuchs defined it, a superficial excoriation of the cornea which simply produces a loss of substance in the epithelial covering. Since such recurrent erosions tend to produce a definite complex of symptoms the author suggests that it should be called "the recurrent erosion syndrome," and each case should be classified according to the ascertained causes, when possible.

The condition has been discussed under various headings such as "herpes and allied lesions," (Lloyd), or "neutrophic keratitis," (Buffington). The German literature usually describes these erosions as "traumatic herpes of the cornea," while the older literature refers to it as "intermittent neuralgic vesicular keratitis," (Hansen), or "relapsing traumatic keratitis," (Deschweinitz).

The views of ophthalmologists differ greatly on the etiology of such recurrent erosions. Franceschetti ascribes the spontaneous type of erosions. Schapert was able to show the pedigree of such erosions in three generations of a particular family. Vogt suspected systemic disturbances as the cause of recurrent corneal erosions, while Spektor believed that it may be caused even by *Ascaris* or other intestinal worms. After the discovery of the herpes virus in 1912, more and more ophthalmologists mentioned the probability that these recurrent erosions are caused by some neurotropic virus. Then, when the medical world became acquainted with allergy, cases have been described as allegedly caused by contact with certain allergens, such as artificial silk. Certain pathological changes accompanying the corneal erosion suggested that there may be some etiological relationship between erosions and the epithelial dystrophies of the cornea.

It seems very probable that trauma of the cornea is the exciting cause, but the actual cause of the pathologic changes which follow is a herpetic infection (Ammann). Much more could be learned from pathological studies of the erosions, but such studies are rather few, and have been made on corneal scrapings. Biomicroscopy is a suitable method of pathological studies of corneal erosions.

Biomicroscopic observations show that in recurrent corneal erosions the first evidence of the disease is the presence of a swollen edematous area with only a faint haze to indicate the change. Eventually, the areas stain, depending upon the rupture of vesicles or the desquamation of epithelium. But hours or even days may elapse before any vesicle is formed in the hazy areas. The vesicles vary in size: there are very small ones, which are superficially located, and large ones between the elastic lamina and Bowman's membrane. The small vesicles rupture and heal before staining can reveal the existence of an erosion. The larger ones may persist for some time, but they will also rupture and heal quickly so that the unpleasant symptoms vanish rapidly.

The healing by epithelization is so prompt that there is an illusion of rapid healing; yet, the new epithel can be easily removed, and a much larger corneal area will become denuded than before. The easy detachment of new epithelium is called "disjunction of epithelium," (Szily), and is thought to be due to some trophic disturbance.

The eroded area is always proximal to the site of injury or to the place of the cornea where a previous abnormal condition has existed. If the erosions are scattered and confined to the epithelium, the presence of a herpetic infection can be assumed with certainty.

The symptoms of the syndrome of corneal erosion are very typical. The patient usually tells that on awakening or opening the lids after a few moments' closure, he experiences a sharp pain in the eye, which radiates over the side of the head or remains in the eye proper. With the effort of opening the eye, tears flow freely. There is marked sensitiveness to light; the eye may be slightly reddened, and there is a foreign body sensation because the lids stick to the blebs or pull on the edematous corneal epithelium. In cases in which the pathologic changes are confined to the epithelium, the corneal sensitivity is lowered. At time of the rupture of the vesicles, there is hyperesthesia, which may cause headache.

The prognosis is good for erosions located in the epithelium, but, if the condition is neglected, and the parenchyma becomes affected, scarring will result. Scarring and subsequent visual disturbances will be the result if the endothelium is also damaged. Secondary infections will also unfavorably affect the prognosis. Among the four cases reported by the author there was one in which even the eyeball was lost from secondary infection.

One should attempt at finding the true cause of the erosion before instituting treatment. If focal infection is suspected to exist it should be eliminated. Locally, the use of bland oils in the conjunctival sac and a mild antiseptic to prevent secondary infection will suffice, after the unhealthy epithelium has been thoroughly removed. In traumatic cases, the use of a mild cauterant such as iodine upon the eroding areas will help to restore a normal adherence of the epithelium, and it may also help in destroying the herpes virus. Goar advocated a thorough curettement, followed by the application of iodine, and the author wholeheartedly recommends the same method. Others recommended the use of x-ray in preference to acid cauterants.

Among the four cases reported by the author one represents the spontaneous type of erosion with attacks which have come principally following prolonged use of the eyes and when the patient's general health has been under par. The erosions have always occupied areas of the cornea at the site of former erosions or next to them. The second case seen in a 25-year-old white man is a typical example of recurrent erosions of a relapsing keratitis of the herpetic type. The erosions were multiple and generally scattered, which suggested the herpes virus as the cause of recurrence. Animal inoculations were further proof of the herpetic infection. In the third case of traumatic recurrent erosion there was a deep corneal injury and, probably, neurotrophic changes. The patient recovered after a period of one and one half years. The fourth case seen in a woman, 43-years-old, is an example of neglected erosion with alleged trauma in one eye but no history of trauma in the other eye, indicating the probable existence of neurotrophic changes which allowed the entrance of the herpes virus in the more inflamed eye.

"The Retinal Manifestations of Subacute Bacterial Endocarditis." By Paul S. Hagen, B.S., M.B., Boston, Massachusetts. Minnesota Medicine, April, 1941.

Retinal hemorrhages are quite frequent in patients with bacterial subacute endocarditis. They appear and disappear at intervals, and there is probably no patient

suffering from subacute bacterial endocarditis who did not have at least one retinal hemorrhage in the course of the disease. The retinal bleedings in endocarditis were first observed in 1872 by Roth, who described them as signs of a "septic retinitis." Others observed elliptical hemorrhages with white centers at an early stage of bacterial endocarditis. But the retinal manifestations may include also embolism of retinal and choroid vessels, resulting in various ophthalmoscopic pictures.

Changes in the disks have been mentioned only by a few observers. The present study aims at determining the incidence of disk involvement in subacute bacterial endocarditis and the correlation of such lesions with other manifestations of the disease. The author examined, therefore, the case records of 67 patients hospitalized at the Division of Internal Medicine of the University of Minnesota Hospital. He found 37 cases in which the eye fundus had been examined. All cases were proved to be true cases of subacute endocarditis.

Thirteen cases or 35 per cent of the series showed disk lesions. The exact classification of these lesions would be extremely difficult. The possibilities are that they are due to toxemia, or embolic processes in the retinal or cerebral circulation, increased intracranial pressure, cerebral hemorrhage from mycotic aneurysms, or just a simple secondary anemia. The disk lesions were different: blurring, papilledema, indistinct margins, hemorrhages in the disk, optic neuritis, optic atrophy.

Petechiae are not always present in the cases showing disk lesions, but they are to be found in about 91.6 per cent of the cases. Patients without disk lesions showed petechiae in about 50 per cent. Cerebral embolic phenomena occurred seven times in the entire series of 37 cases. Six of these were among the group with disk lesions. This means that disk lesion can be expected with considerable regularity in cases of subacute bacterial endocarditis showing evidence of cerebral emboli.

Variations in blood pressure, temperature, and leukocyte count failed to reveal significant correlation with the occurrence of disk lesions. Visual disturbance is the one finding that seems definitely confined to the group of patients with disk lesions. In 1910, Falconer stated that the finding of optic neuritis will aid in making an early diagnosis of subacute bacterial endocarditis. It would be, therefore, interesting to determine the amount of time which elapsed between the onset of symptoms of the disease and the appearance of the disk lesions. The author stresses the importance of routine ophthalmoscopy in all cases of bacterial endocarditis.

"A Survey of Superficial Punctate Keratitis in Tasmania With the Record of a Mild Epidemic." By J. Bruce Hamilton, Hobart. The British Journal of Ophthalmology, January, 1941.

There are a number of little known corneal diseases described under such terms as: superficial punctate keratitis, dendritic ulcers, disciform keratitis, neuro-pathic keratitis, and keratitis profunda. All of them, together with the herpes simplex of the cornea, were supposed to be caused by herpetic virus infection. Yet, until a better understanding of virus diseases is obtained, one cannot say anything definitely as to the relation of these various corneal affections. An epidemic of superficial punctate keratitis observed by the author in Tasmania proves that a variety of corneal lesions due to one virus may occur.

Among these corneal lesions the least severe are the multiple corneal erosions. Doggart showed that they are very common after influenza, and also after Koch-Weeks conjunctivitis. The author, in cases of the Tasmanian epidemic, found that these erosions are the manifestations of the same virus disease which causes superficial punctate keratitis. Other more severe manifestations of this virus disease are marginal keratitis with or without ulceration, frank superficial keratitis, dendritic ulcer, and disciform keratitis, all of which could be found concurrently with superficial punctate keratitis.

Superficial punctate keratitis as an epidemic disease has already been described by Wright (1930), and others. The Tasmanian epidemic included 83 cases seen between February 1, 1931, and June 1, 1939. Before, and since then, many mild endemic cases were observed by the author. There now seems to be no doubt that it is a virus infection of the trigeminal nerve, and that it may sometimes be associated with herpes of the face.

Forty-two of the patients were males, and 50 were females, most of the male patients being in the third decade of life, and the female patients in the fifth and sixth decades. Influenza played the greatest etiological part, yet there was no definite seasonal incidence of the disease. The Tasmanian epidemic showed that there is no acquired immunity to this infection. Several patients had relapses in the same eye or in the other eye. The disease did not appear to be contagious.

The history of a recurrent red and watery eye, with photophobia and little discharge, and no deep seated pain, accompanied by a slight blurring of the vision, is most typical. The corneal lesion can be found with a monocular loupe only with difficulty, and many cases of superficial punctate keratitis will be missed unless continuous and careful observation be made. A corneal microscope should be used for differential diagnosis.

The author found that painting of the conjunctival surface of the lids with 2 per cent silver nitrate will have a dramatic result. By this method of treatment the average duration of treatment has been reduced to 7.3 days. If a final application of silver nitrate was made to the lids after all the corneal lesions had departed, and the eye looked satisfactorily white, relapses were diminished.

Kentgens considers that definite benefit is to be derived from treating herpetic conditions of the cornea (including superficial punctate keratitis) with vitamin A preparations, both locally and generally. The duration of illness could be reduced from 30 days to ten days, which is very significant, and deserves further exploration.

PLASTIC SURGERY

Edited by George H. Kimball, M. D., F. A. C. S.
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"Prosthetic Reconstruction of Nose and Ear With A Latex Compound." By Arthur H. Bulbulian, D.D.S., Rochester, Minn. A.M.A. Journal, April 5, 1941.

The author has perfected a means of using latex compounds for artificial ear and nose. He states that plastic surgery for reconstruction is given the first consideration in restoring noses and ears with the following exceptions.

1. When the patient is of advanced age.
2. When the patient needs an immediate restoration in order to carry on his or her work after removal of a growth before reconstruction by surgical methods is advisable.
3. When the patient is unable financially to pay for hospitalization for a plastic surgical operation.
4. When operation is considered inadvisable because of the situation or extent of the defect.

The author works in conjunction with Dr. Gordon B. New, plastic surgeon of the Mayo Clinic

During the past five years he has developed this compound and shown satisfactory results.

Conclusions: From the report it appears that this is an advance in prosthetic material. There are cases, especially total loss of ear and total loss of nose, that are probably better treated by prosthesis than by surgery. This is especially true in the aged.

CARDIOLOGY

Edited by F. Redding Hood, M. D.
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"Premonitory Symptoms of Acute Coronary Occlusion." By Arthur M. Master, M.D., Simon Dack, M.D., and Harry L. Jaffe, M.D. *Ann. Int. Med.* 14:1155-1165, January, 1941.

To know that an attack of coronary occlusion is imminent may not serve the highest purpose of preventing the development of complete closure, but it is satisfying to be able to recognize the prodrome. Premonitory symptoms were recognized in 44.2 per cent of 260 patients who subsequently had acute coronary occlusion when detailed histories could be carefully elicited, report Arthur M. Master, M.D., Simon Dack, M.D., and Harry L. Jaffe, M.D., of Mt. Sinai Hospital, New York.

Merely knowing that occlusion has begun will not prevent progress to complete obstruction, if such is to occur; but placing the patient in bed immediately following onset of symptoms may decrease the severity of cardiac agony and the incidence of fatal heart failure. Furthermore, physician, patient and relatives derive consolation from anticipating events.

Warning that coronary occlusion is about to occur, may be given by symptoms occurring from twenty-four hours to two or three weeks before actual closure takes place. The preliminary notice of a serious impending catastrophe varies from sudden typical anginal pain or increased frequency of attacks of angina pectoris, to substernal or precordial distress, fatigue, weakness, dyspnea, palpitation, nervousness, dizziness and gastric symptoms. Whether the symptoms are intermittent or continuous, lasting for a few minutes or several hours,

there is usually a pain-free interval immediately before the onset of acute occlusion.

Initial symptoms came on during rest in 28.5 per cent of the cases, during mild or moderately active in 68.5 per cent and during strenuous effort in only 2.9 per cent. The percentage of attacks which occur during rest, sleep, mild or routine activity, walking, moderate activity or strenuous exercise is proportional to the part of the day spent by the ordinary person in these activities.

The physical signs of occlusion are obviously lacking during the period before complete block of the coronary artery, with resultant infarction of the heart muscle, takes place. Fever, leukocytosis, tachycardia, fall in blood pressure and electrocardiographic changes are noted during the early phases of coronary occlusion. These signs are produced by infarction of the myocardium and are not evident until such an event occurs.

The fact that in over 40 per cent of the cases of coronary occlusion it was possible to observe threatening symptoms hours, days and even weeks before blood flow in the vessels was actually shut off and death of cardiac muscle resulted, suggests that closure develops gradually, probably in any one of the three ways:

1. Hemorrhage into the intima of an arteriosclerotic plaque, with secondary thrombosis within the lumen of the vessels as a result of injury or actual dissolution of the overlying endothelium;
2. Primary thrombosis on an arteriosclerotic plaque;
3. Hemorrhage into an atheromatous abscess (hematoma) closing the lumen of the vessel with actual thrombosis.

On these hypotheses one may assume that the onset of the warning symptoms is associated with the rupture of a mural capillary, producing hemorrhage which suddenly narrows the lumen of the coronary artery, but does not entirely block it.

Coronary occlusion then is the end result of an arteriosclerotic process.

For the local Treatment of Acute Anterior Urethritis

(DUE TO NEISSERIA GONORRHEAE)

SILVER PICRATE*
Wyeth

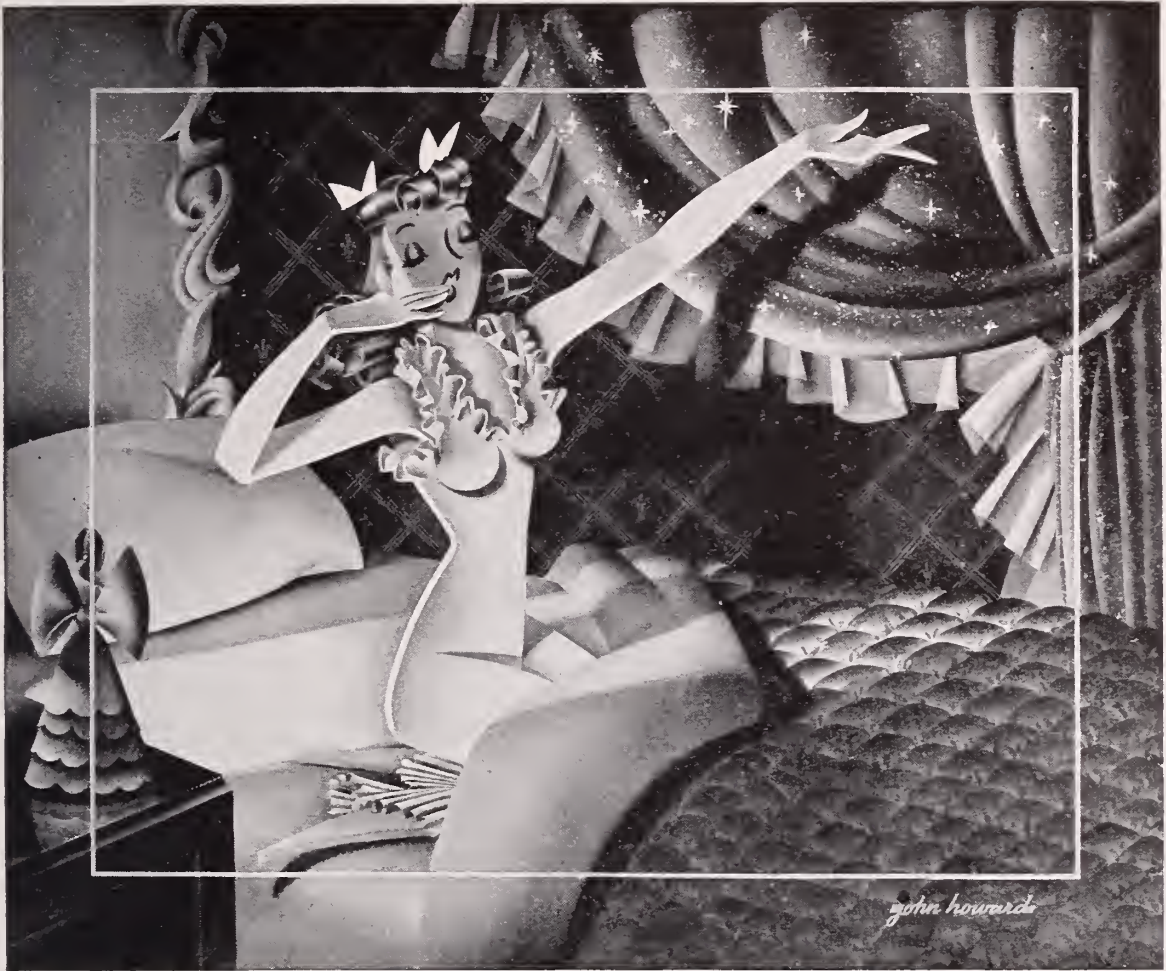
A complete technique of treatment and literature will be sent upon request

*Silver Picrate is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble titration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by *Neisseria gonorrhoeae*.¹ An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," *Am. J. Syph., Gon. & Ven. Dis.*, 23, 201 (March), 1939.

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OFFICERS OF COUNTY SOCIETIES, 1941



COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Adair.....			
Alfalfa.....	H. E. Houston, Cherokee	L. T. Lancaster, Cherokee	Last Tues. Each 2nd Mo.
Atoka-Coal.....	J. B. Clark, Coalgate	J. S. Fulton, Atoka	
Beckham.....	H. K. Speed, Sayre	T. W. Pratt, Cheyenne	Second Tues. eve.
Blaine.....	L. R. Kirby, Okeene	W. F. Griffin, Watonga	
Bryan.....	J. T. Colwick, Durant	W. K. Haynie, Durant	Second Tues. eve.
Caddo.....	E. W. Hawkins, Carnegie	G. E. Haslam, Anadarko	
Canadian.....	P. F. Herod, El Reno	A. L. Johnson, El Reno	Subject to call
Carter.....	R. C. Sullivan, Ardmore	H. A. Higgins, Ardmore	
Cherokee.....	P. H. Medearis, Tahlequah	Isadore Dyer, Tahlequah	
Choctaw.....	C. H. Hale, Boswell	Floyd L. Waters, Hugo	
Cleveland.....	D. G. Willard, Norman	Phil Haddock, Norman	Thursday nights
Comanche.....	G. G. Downing, Lawton	Donald Angus, Lawton	
Cotton.....	Mollie Scism, Walters	R. M. Van Matre, Walters	Third Friday
Craig.....	Powell L. Hays, Vinita	Paul G. Sanger, Vinita	
Creek.....	P. K. Lewis, Sapulpa	Wm. P. Longmire, Jr., Sapulpa	
Custer.....	C. Doler, Clinton	W. C. Tisdal, Clinton	Third Tuesday
Garfield.....	V. R. Hamble, Enid	John R. Walker, Enid	4th Thursday
Garvin.....	Robert M. Alexander, Paoli	John R. Callaway, Pauls Valley	Wed. before 3rd Thur.
Grady.....	Turner Bynum, Chickasha	Roy E. Emanuel, Chickasha	3rd Thursday
Grant.....	I. V. Hardy, Medford	E. E. Lawson, Medford	
Greer.....	J. B. Lansden, Granite	J. B. Hollis, Mangum	
Harmon.....	Samuel W. Hopkins, Hollis	Wm. M. Yeargan, Hollis	1st Wednesday
Haskell.....	Wm. S. Carson, Keota	N. K. Williams, McCurtain	
Hughes.....	William L. Taylor, Holdenville	Imogene Mayfield, Holdenville	First Friday
Jackson.....	Raymond H. Fox, Altus	Willard D. Holt, Altus	Last Monday
Jefferson.....	D. B. Collins, Waurika	J. I. Hollingsworth, Waurika	
Kay.....	J. G. Ghormley, Blackwell	L. I. Wright, Blackwell	3rd Thursday
Kingfisher.....	F. C. Lattimore, Kingfisher	H. Violet Sturgeon, Hennessey	
Kiowa.....	J. M. Bonham, Hobart	J. L. Adams, Hobart	
Le Flore.....	G. R. Booth, Le Flore	Rush L. Wright, Poteau	
Lincoln.....	J. W. Adams, Chandler	C. W. Robertson, Chandler	First Wednesday
Logan.....	Wm. C. Miller, Guthrie	J. L. LeHew, Jr., Guthrie	Last Tuesday evening
Marshall.....	John L. Holland, Madill	J. F. York, Madill	
Mayes.....	S. C. Rutherford, Locust Grove	E. H. Werling, Pryor	
McClain.....	B. W. Slover, Blanchard	R. L. Royster, Purcell	
McCurtain.....	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow	4th Tues. eve.
McIntosh.....	D. E. Little, Eufaula	W. A. Tolleson, Eufaula	2nd Tuesday
Murray.....	P. V. Annadown, Sulphur	O. D. Thomas, Sulphur	
Muskogee.....	A. N. Earnest, Muskogee	S. D. Neely, Muskogee	1st & 3rd Monday
Noble.....	J. W. Francis, Perry	C. H. Cook, Perry	
Okfuskee.....	J. M. Pemberton, Okemah	L. J. Spickard, Okemah	2nd Monday
Oklahoma.....	George H. Garrison, Okla. City	W. W. Rucks, Jr., Okla. City	4th Tuesday
Okmulgee.....	I. W. Bollinger, Henryetta	M. D. Carnell, Okmulgee	2nd Monday
Osage.....	T. A. Ragan, Fairfax	George Hemphill, Pawhuska	2nd Monday
Ottawa.....	J. W. Craig, Miami	L. P. Hetherington, Miami	Last Thursday
Pawnee.....	M. L. Saddoris, Cleveland	Robert L. Browning, Pawnee	
Payne.....	A. B. Smith, Stillwater	Haskell Smith, Stillwater	3rd Thursday
Pittsburg.....	W. H. Kaiser, McAlester	Edw. D. Greenberger, McAlester	3rd Friday
Pontotoc.....	E. M. Gullatt, Ada	R. E. Cowling, Ada	1st Wednesday
Pottawatomie.....	R. M. Anderson, Shawnee	Clinton Gallaher, Shawnee	1st & 3rd Saturday
Pushmataha.....	E. S. Patterson, Antlers	D. W. Connally, Antlers	
Rogers.....	W. A. Howard, Chelsea	P. S. Anderson, Claremore	1st Monday
Seminole.....	Claude S. Chambers, Seminole	Mack I. Shanholtz, Wewoka	
Stephens.....	E. C. Lindley, Duncan	John K. Coker, Duncan	
Texas.....	L. G. Blackmer, Hooker	Johnny A. Blue, Guymon	Subject to call
Tillman.....	T. F. Spurgeon, Frederick	O. G. Bacon, Frederick	
Tulsa.....	J. C. Brogden, Tulsa	Roy L. Smith, Tulsa	2nd & 4th Mon. Eve.
Wagoner.....	H. K. Riddle, Coweta	S. R. Bates, Wagoner	
Washington-Nowata.....	S. A. Lang, Nowata	J. V. Athey, Bartlesville	2nd Wednesday
Washita.....	A. S. Neal, Cordell	James F. McMurry, Sentinel	
Woods.....	C. A. Royer, Alva	O. E. Templin, Alva	Last Wednesday
Woodward.....	Joe L. Duer, Woodward	C. W. Tedrowe, Woodward	

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Carcinoma of the Cervix Uteri*

A. N. ARNESON, M.D.

ST. LOUIS, MISSOURI

Marked improvement has been made in clinical results obtained in the treatment of carcinoma of the cervix uteri during the past two decades. At one time fewer than 20 per cent of all patients survived the usual five years. Some recent authors have reported more than 30 per cent of their cases alive and well for the same period. Increase in the survival rate may be due in part to a more favorable type of clinical material. This is to be expected as the result of earlier recognition of cervix cancer by physicians. It is also possible that, due to programs of lay education, patients now investigate suspicious symptoms more promptly. More important than the possible slight increase in favorable cases, however, has been advance in methods of radiological treatment. Many of the advances have been of a technical character related to fundamental physical principles of irradiation. Important contributions have also been made upon the biologic effects of x-rays and radium. In clinical practice it is essential to consider the biologic as well as the physical factors of treatment. To better evaluate progress in the management of cervix cancer, the attempt should be made to review some of the biologic factors believed to affect tumor regression.

The aim of radiation treatment is to deliver an adequate dose to the tumor-bearing region with a minimum of damage to normal tissues. In cervix cancer one usually thinks of skin, bladder, and intestine as being the most important normal structures apt to be over-irradiated. Lesser consideration is given parametrium, myometrium, and normal supporting tissues within the tumor itself. These latter cellular elements, consisting chiefly of connective tissue, muscle cells, and blood vessels, constitute the so-called tumor bed.

The action of radiation is a combined attack upon cancer cells and tumor bed. There is considerable evidence that regression depends equally upon alterations produced in the normal supporting structures of the tumor bed, as upon changes occurring in the abnormal cancer cells. The histologic alterations following the application of specified amounts of radiation have been abundantly described by several authors. The more important effects noted in cervix cancer include swelling of the tumor cells, pyknosis and fragmentation of nuclei, hyalinization, and degeneration. Changes in the tumor bed are more subtle, but equally as marked. There is an almost immediate infiltration of lymphocytes and plasma cells. There then follows a gradual increase in fibroblastic activity that may result in a dense connective tissue overgrowth. A complete breakdown

*Read before the General Session, Annual Session, Oklahoma State Medical Association, May 20, 1941, in Oklahoma City.

(From the Edward Mallinckrodt Institute of Radiology and the Department of Obstetrics and Gynecology, Washington University School of Medicine, and The Barnard Free Skin and Cancer Hospital, St. Louis, Mo.)

in capillary structure is apt to occur, with obliteration of blood vessels by thrombosis or endarteritis. Within a reasonable time after treatment, one may find a fibrotic tissue that is quite hard, dense, and avascular.

All of the changes produced in the tumor bed from the initial lymphocytic invasion to terminal fibrosis and ischemia appear to be a response to injury produced by radiation. These alterations can readily be related to regression. It is also not unreasonable to believe that by such processes, small nests of tumor cells, which for some reason escape total destruction, may become strangulated and remain clinically inactive although fully viable. If, therefore, there exists before treatment an abundant opportunity for marked changes in the tumor bed, one can frequently expect satisfactory regression, and greater possibilities for strangulation of any residual cancer cells. By the same reasoning one may expect a less favorable result in the presence of pre-existing fibrosis and ischemia. This is shown clinically by the marked radioresistance of recurrent lesions in which earlier irradiation produced extensive changes in the tumor bed. It may be stated, therefore, that the status of the tumor bed is an important factor in clinical response.

Changes produced in individual tumor cells may also be considered a response to injury. The degree of alteration may vary considerably within a single microscopic field. No full explanation has been given for this phenomenon, but Fallia has demonstrated that swelling of the cytoplasm is closely associated with, if not responsible for, cellular death. The swelling is believed to be the result of ionization produced by radiation. Due to an excess of ions outside the cells, water is carried into the cytoplasm by the passage of ions attempting to equalize the difference in electrical charge. He found that the injection of distilled water into the irradiated area increased the amount of swelling. These data contribute experimental evidence upon the importance of environment in tumor regression.

It has been stated by several authors that it is essential for alterations in cancer cells as well as in the tumor bed to proceed in an orderly manner if a satisfactory result is to be obtained. Several factors may interfere. One of the most common is over-treatment of some regions. In such instances the normal tissues of the tumor bed may be damaged beyond the limits of repair. If necrosis and death of these structures occurs, there is marked interference with fibroblastic and vascular changes. Some believe injuries of that sort may result in unrestrained growth of cancer rather than control of the lesion. It may be that a

complete breakdown in the tumor bed liberates the growth from most restraining mechanisms normally present. Infection may also be responsible for treatment failures. The presence of infection tends to lower the threshold for necrosis. That is, lesser amounts of radiation are required for producing necrosis and slough in badly infected lesions. At the same time it should be noted that lesions of that type may require large doses of radiation, because infection is also believed to contribute to greater radioresistance. Biopsies of some ulcerated and necrotic cervical cancers show histologic changes before treatment that are comparable to the early alterations in both cancer cells and tumor bed noted in specimens removed from patients under irradiation. This may be of some significance in the attempt to explain the greater radioresistance of infected lesions.

Radiosensitivity has been defined by Stewart as that combination of circumstances resident in the tumor or the host which permits marked or total local tumor regression under doses of radiation sufficiently small to preserve the essential integrity of the host's tissue. Some tumors are markedly sensitive to radiation and disappear very rapidly after small doses. Others may disappear very slowly and only after large amounts of radiation have been administered. Regression of the latter type is due to slow sclerosis. It is obvious, therefore, that there are degrees of radiosensitivity. The term does not imply that a tumor will disappear from small doses. Neither does it imply that a high percentage of cures will be obtained, because some of the most sensitive lesions, such as lymphosarcoma, invariably recur. There are also degrees of radioresistance. Some lesions are totally unresponsive to radiation, but in others satisfactory results may follow the administration of enormous amounts of external and interstitial treatment approaching the limits of tolerance for normal tissues. Radiosensitivity or radioresistance applies only to the biologic properties of a given lesion. The terms are not necessarily related to prognosis.

No full explanation can be given for sensitivity or resistance to radiation. The tissue of origin has been used by a number of authors as a basis for estimating the expected response to treatment. Squamous cancer of the cervix falls in a moderately sensitive group. Many attempts have been made to correlate radiosensitivity with the degree of cellular differentiation. In cervix cancer there may be some relationship between histologic type and the immediate response to treatment, but it is extremely difficult to correlate these findings with end results. Some other factor must be employed in the at-

tempt to predict more accurately the sensitivity of a given tumor. Microscopic study of biopsy specimens reveals only spotty data upon the status of the tumor bed and the amount of infection. The conditions existing in one small piece of tissue removed from the lesion may be quite different from tumor located only a few millimeters distant from the site of the biopsy. The gross character of the lesion can be determined only by visual inspection and digital palpation. The clinical response of a given tumor will often be in closer agreement with radiosensitivity predicted on the basis of data obtained by direct examination than by an estimation made on histologic findings.

Carcinomas of the cervix can be divided, according to the gross appearance of the tumor, into three separate groups. Perhaps the most common form of cervix cancer is the so-called cauliflower lesion. These may be small local tumors located on only one lip of the cervix. Others may be large bulky lesions that completely replace the cervix and almost fill the vagina, but frequently without fornical involvement or parametrial extension. There are, of course, cauliflower varieties of all sizes associated with different stages of advance of the disease, but in general they are everting growths tending to form bulky lesions with a minimum of invasion into deeper structures. They are characterized by friability and vascularity. Bleeding is apt to appear early and may be troublesome. It is obvious that they have a rich blood supply, and that the structure of the tumor bed forms only a loose fragile support. Due to the abundant opportunity for radiation fibrosis and ischemia, one would expect marked radiosensitivity. Clinical experience has shown that lesions of this variety are the most sensitive types of cervical carcinomas. Due to their marked friability, however, cauliflower lesions are apt to be ulcerated. Deeper portions of the tumor are exposed to infection through superficial ulcerations. Necrosis and slough are not uncommon. In the presence of marked infection they may show considerable radioresistance. They may undergo extensive radiation necrosis with destruction of the tumor bed if initial doses are too large.

Another type of cervix cancer, seen almost as frequently as the cauliflower variety, is one characterized by diffuse enlargement of the cervix, usually nodular, always markedly indurated, and frequently presenting an intact surface epithelium without ulcerations. These are infiltrating types of growths with a marked tendency toward invasion of deeper structures. The tendency toward invasion is apparently one of the factors responsible for their induration. In

the attempt to resist direct extension of the tumor, normal tissues throw up a barrier of connective tissue. Fibroblastic activity, therefore, is marked, and the blood supply may be scant. Bleeding is usually a delayed symptom and may not be present until the lesion has reached a rather advanced stage. This seems to be due to the tendency of the tumor to grow beneath the superficial epithelium of the cervix. As a result ulcerations are uncommon, and infection may not be marked. In spite of the relative freedom from necrosis and slough, however, infiltrating types are considerably more resistant to radiation than cauliflower varieties. This is best explained upon the basis of the pre-existing fibrosis and moderate ischemia.

A third type of cervix cancer is the so-called cratered lesion. The formation of a crater depends chiefly upon infection followed by necrosis and, finally, slough. Friability may also be a factor in the dislodgment of large tumor fragments. Among patients with cratered lesions, one can frequently obtain the history of sudden profuse hemorrhage. Bleeding of this sort may mark the time at which a large portion of the crater was formed. As a separate classification these tumors form a less distinct group. They must obviously have begun either as cauliflower or infiltrating types. It is reasonable to assume that everting growths would be more apt to result in cratered lesions, due to their greater friability and subsequent infection with necrosis and slough. Evidence that this is true is shown clinically by the relatively favorable radiosensitivity of many cratered forms. Some show a surprising response to radiation in spite of the marked degree of infection always present. Prognosis in cratered lesions is unfavorable, however, because they are usually associated with well advanced stages of cervix cancer. There are, of course, small lesions with a central necrotic crater, but in general extensive necrosis and slough do not develop until the tumor has grown considerably and involved adjacent structures.

Prognosis in cervix cancer depends upon many factors. One of the most important is the extent of involvement of the carcinoma. In clinical practice, however, it is important to have some knowledge of radiosensitivity. It is not only essential to know something about the response to be expected in a given tumor, but also the reaction apt to be produced in all other tissues. Among very advanced lesions, for example, the aim of treatment may be for palliation alone. In such instances it is important that this be accomplished with a minimum amount of radiation. Over-treatment may not only fail to produce

the desired palliation, but also result in radiation sequelae that contribute materially to general discomfort. At the same time it should be noted that under-treatment entails risk of recurrence. Too small an amount of radiation applied to a favorable lesion of a highly radiosensitive character may result in reappearance of the tumor in spite of complete clinical disappearance immediately following the primary treatment. For improving clinical results, therefore, it is essential to individualize the treatment of each patient. Biologic as well as physical factors of irradiation must be considered in every instance. The presence of biologic properties indicating radiosensitivity does not necessarily imply that a good result is to be expected. At the same time it is essential to have knowledge of those factors in the attempt to estimate the minimum amount of radiation believed to be necessary for control of the lesion in question, and the maximum dose believed to be practical in the most heavily treated regions.

It is obvious that no standard methods of treatment can be applied to all patients if the irradiation of each lesion is to be individualized. There are, however, some fundamental procedures essential in every instance. There is, for example, general agreement that x-rays should precede the use of radium. By this means infection can be reduced, and as a result of lessened inflammation, there is a tendency for ulcerations to heal. With repair of raw surfaces there is a decreased amount of bleeding. Following a preliminary course of x-rays, there is also some regression in the size of the primary lesion. It is obvious that this will facilitate radium treatment given at a later date.

There are other procedures that can also be used in the attempt to reduce infection. The commonly used vaginal irrigations can be supplemented by various office and clinic procedures. For this purpose an air spray, such as is used in nose and throat conditions has been found useful. It may be that the mechanical washing away of infected secretions is of as much benefit as the direct action of chemicals applied by spraying. Among preparations found to be practical have been sodium perborate, hydrogen peroxide, and zinc peroxide, medicinal. The action of the latter compound depends upon the slow liberation of nascent oxygen following activation by heat. More effective use of this preparation has been obtained by applying it as a paste to the infected lesion. Cervices have been painted with mallophone in the attempt to obtain bactericidal effects deep in the tumor by absorption of the chemical with eventual elimination by urine.* The

production of fermentation by sugars also has an effect upon bacterial flora. It is difficult to establish by clinical observation any superiority for one method over another, except to say that the elimination of slough apparently proceeds more rapidly if oxygenization is added to procedures having only a bacterial effect.

There can be no doubt but that any attempt to reduce infection will contribute to better tumor response. For improvement in clinical results, however, there must be further advance in methods of treatment. This can best be done by careful evaluation of all biologic and physical data in each instance. One must first decide upon a minimum dose believed to be adequate for control of the lesion in question. It is then essential to distribute the necessary amount of radiation as evenly as possible throughout the tumor-bearing region. If some areas receive an inadequate amount, recurrence is to be expected. If other regions are over-radiated, necrosis may result, which, in turn, interferes with regression.

In so far as x-rays are concerned there is considerable uniformity in distribution of the dose applied, except that decreasing amounts arrive at succeeding depths beneath the surface. For radium, however, there is marked irregularity in the distribution from a single source. The loss of intensity is enormous within a few millimeters. If a number of tubes, capsules, etc., are employed, the discrepancy between the minimum dose reaching some points and the maximum amount falling on others can be reduced. By means of the "cross fire" from multiple capsules, it may be practical to deliver an adequate dose throughout a given volume without employing any single source for a period apt to produce extensive necrosis in the adjacent tissues. In cervix cancer it is essential to use intravaginal radium in conjunction with an intrauterine tandem. The most logical method for increasing the number of sources employed in treatment is the use of interstitial irradiation (seeds, needles, etc.). In very resistant lesions, such as post-radiation recurrences, needles have been found to be a most practical method of treatment. In such instances a relatively large minimum dose is required. At the same time, due to fibrosis and ischemia, there is risk that over-treatment may produce a more or less permanent radiation ulcer. It is obvious that a fairly uniform distribution of radiation is essential in those lesions.

Of the total dose arriving at the cervix and tissues immediately adjacent to it, more is contributed by radium than by x-rays. This should not be interpreted, however, as minimizing the importance of external ir-

*Samples of all the above preparations were contributed for trial by the Mallinckrodt Chemical Company, St. Louis, Mo.

radiation. Radium applied to the primary lesion will control cancer within a radius of only a few centimeters. Much of the total dose reaching more distant points is contributed by x-ray. In planning treatment, it is essential to consider the contribution from each method. A preliminary course of x-rays not only results in a moderate amount of radiation reaching the tumor, but also functions as a preparatory period of treatment before radium. In small local recurrences that are quite radioresistant and relatively free from infection, the use of preliminary roentgen treatment may be less important. In all badly infected tumors, however, it is essential. At the same time we have probably used lesser total doses than those sometimes employed in other clinics. There is some evidence that maximum effects from both x-rays and radium should coincide more closely than has been our practice in the past. Too large an amount of x-rays may produce an untoward effect by necessitating a long period of recovery before radium can be applied.

Some authors have reported their early results obtained in the attempt to replace

radium by x-rays alone. We have had no experience with voltages in excess of 400,000, but with x-rays of that order there has been little evidence that such could be accomplished. Among technical procedures that do bear promise of improved clinical results has been the use of transvaginal or direct roentgen treatment of cervix cancer. We have used this method not in the attempt to reduce the amount of external irradiation or radium employed, but in order to contribute a greater dose applied fairly uniformly to the cervix and adjacent structures. This method is limited, however, to patients presenting a moderately large vagina with reasonable mobility of the vault.

No attempt has been made to outline any specified technic of treatment. The importance of individualizing each patient has been emphasized. Discussion of some factors believed to affect radiosensitivity has been given. Improvement in clinical results is to be expected if radiation is planned upon the basis of biologic and physical factors of treatment. The more important procedures include attempts to reduce infection and prevent excessive radiation necrosis.

The Surgical Treatment of Radiation Damage to Tissue*

GEORGE H. KIMBALL, M.D.

OKLAHOMA CITY, OKLAHOMA

The discovery of the roentgen ray in 1895 released to the medical profession one of the most powerful physical agents known. This ray was immediately put to use both for diagnostic and therapeutic measures. It was very early apparent that this agent, in order to destroy abnormal tissue, would in some cases have a deleterious effect upon normal tissue. In 1896 Marcus reported a case of roentgen ray dermatitis. He also claimed a case of malignant degeneration engrafted upon a radiation ulcer.

Corrective measures were used from the outset. Today the clearer understanding of irradiation effects, the giving of fractional doses, and the employment of protective

measures both for patient and radiologist result in a surprisingly small number of untoward effects on normal tissue. The surgeon should assume some responsibility in cases of radiation damage, if he expects the radiologist to use the maximum dosage. In many cases the x-ray cures the patient of a worse condition than can possibly result from tissue damage outside the malignant lesion.

In order to understand a proper procedure for relief of pain or undesirable effects from irradiation, one must look carefully at the pathology encountered. To the surgeon the principal element of radiation damage is one of avascularity or a disturbance in circulation of the part. With this of course one finds necrosis, ulceration, loss of regenerative capacity.

Microscopic Pathology: The early tissue

*Read before the Section on Dermatology and Radiology, Annual Meeting, Oklahoma State Medical Association, May 21, 1941, in Oklahoma City.

changes brought about by irradiation are those of inflammation, with proliferation and exfoliation of the epithelial cells. Later the dermis, including the elastic tissue, hair follicles, and glandular elements undergoes degeneration, followed by atrophy and sclerosis. The capillaries show a progressive proliferative endarteritis characterized by a diminution of their caliber, or by a complete obliteration of their lumina. The result is ischaemia of the tissues supplied by these capillaries, and necrosis and ulceration results. Capillaries, arteries, veins, and lymphatics show obliterative changes. Cell function is lost, regenerative capacity is lost or reduced to a low point.

Clinical Groups: 1. Lesions resulting from a single dose (massive dose), intentional or otherwise. It must be granted that there is an individual susceptibility in some cases, depending on age, concomitant disease, previous treatment, etc. However, in some cases the dosage has been found to have been excessive.

2. Lesions resulting from small but fre-

quent doses over a long period of time. This is the larger group of cases. Cases treated for lupus, acne, ringworm, pruritus, naevi, etc. Deep therapy cases, especially those treated for malignancy.

3. Professional workers, many of them physicians. The most commonly affected parts are the hands and face. Some of these patients used the x-ray before knowing the dangers involved, or the proper precautions to employ.

Surgical Treatment: It should be stated here that no two cases present the same problems of treatment. One cannot make dogmatic statements as to the care because of the wide variation of conditions encountered. Also this paper does not hint as to the care of radiation injury to the lungs, brain, abdominal viscera. We are speaking here especially of those lesions that are present externally. The surgical repair is divided into two stages: a. Excision, and, b. Repair. In most of the chronic cases the two stages are done at one operation.

In the cases resulting from one massive



Case 1, Figure 1 (top left)—Extensive radiation burn with ulceration and necrosis.

Case 1, Figure 2 (top right)—Same case following wide excision and skin graft.



Case 2, Figure 3 (lower left)—Extensive epithelioma of face, nose and lip.

Case 2, Figure 4 (lower center)—Tumor destroyed by x-ray therapy. Note loss of pigment, contracture of eyelid.

Case 2, Figure 5 (lower right)—Result following a sliding graft from forehead, tube graft from neck.





Case 3, Figure 6 (top left)—X-ray burn of thigh and leg. This photograph was taken 30 years years after treatment and shows ulceration and telangectasia.

Case 3, Figure 7 (lower left)—shows the result following excision and use of split graft.



Case 4, Figure 8 (top center)—Fluoroscope burn which extends down to tendons.

Case 4, Figure 9 (lower center)—Area after excision and skin graft.

Case 5, Figure 10 (top right)—Ulcer at site of radiated area (epithelioma), treated ten years ago.

Case 5, Figure 11 (lower right)—Result following excision and use of split graft.



dose with subsequent necrosis and pain, the best procedure as a general rule is that of wide excision of the avascular part. Here too one must speak with caution for the reason that the limits of damage are not well defined. Following the excision of what seems to be all of the area, one may find later necrosis at the periphery or at the base of the wound. The repair of these defects is usually postponed until healthful appearing granulation surfaces develop. The pedicle graft may be used for improvement of the circulation of the grafted part, as the pedicle graft carries the blood supply with it. The choice of graft depends upon many factors. If one uses a pedicle from the area next the damage, the circulation may not be satisfactory. The percentage of takes in the free grafts is surprisingly high.

In the chronic cases one can usually find a line of demarcation without difficulty. All of the damaged tissue is excised unless it encroaches upon a vital structure or tends to enter into a cavity such as the chest or abdomen. The thick razor or split graft usually suffices for the plastic correction. However, one may use pedicle grafts if the cosmetic aspect is important. The hands can usually be done satisfactorily with free grafts. If

the lesion uncovers tendons, joint, or bone, the pedicle graft becomes necessary for functional results as well as a protective factor. In case of a suspected malignancy within the ulcer, the Bovie knife is the best implement to employ in the operation.

Conclusion: A brief outline of the surgical treatment of lesions following radiation has been presented. One may say in this connection that the excision of the painful ulcerated area in the acute cases affords dramatic relief. The repair of the chronic cases is attended by a high percentage of satisfactory results.

CASE REPORTS

Case 1. Figures 1 and 2. Extensive ulceration and necrosis of buttocks following irradiation for ringworm (one massive dose). This patient suffered considerable pain, general nervous upset. The treatment consisted of wide excision with the Bovie Knife. The dissection extended down to the capsule of the prostate gland. The wound was allowed to rest several weeks, following which the granulation area was covered by small deep grafts.

Case 2. Figures 3, 4 and 5. Extensive epithelioma of face, nose and lip. This patient was treated by radiation therapy to



Case 6, Figure 12 (top left)—Burn scar on scalp of 28 years duration, with malignant transformation.

Case 6, Figure 13 (top center)—Same area following excision with Bovie knife and thick split skin graft.

Case 6, Figure 14 (top right)—Effect obtained by wig.

Case 7, Figure 15 (lower left)—Defect of lower lip following removal of malignant tumor. (Epidermoid carcinoma)

Case 7, Figure 16 (lower center) shows first stage in Estlander operation, with flap borrowed from the upper lip.

Case 7, Figure 17 (lower right) shows final result.

the point where the tumor was entirely destroyed. Following the therapy, there presented a loss of pigment of the skin, a part of the nose was absent, the ectropion of the lower lid preceded the radiation. The sight of the eye was destroyed. Treatment from a surgical standpoint consisted of radical removal of the eye and orbital contents, the removal of the dry and depigmented skin of the face. Reconstruction of the orbit was done at the same operation by a sliding graft from the forehead. Later the nose and lip were repaired by a tube graft from the neck. Apparently a five year cure.

Case 3. Figures 6 and 7. A case of chronic ulceration of leg and loss of pigment, telan-

giectasia, and skin atrophy resulting from irradiation administered 30 years ago. Wide excision of area was done, and at the same operation a large split graft set in the defect. Microscopic pathology negative for malignant transformation.

Case 4. Figures 8 and 9. Damage by fluoroscope used to remove a foreign body from forearm. The lesion persisted two years under conservative treatment. The area was excised and the defect covered by a pedicle graft taken from the abdominal wall. The extensor tendons were exposed at the time of the removal of the devitalized tissue. Good function resulted in this area.

Case 5. Figures 10 and 11. Chronic ulceration at site of radiated tumor of face treated ten years ago. Following excision of area, a thick split graft was applied. Microscopic exam negative.

Case 6. Figures 12, 13 and 14. Burn of scalp sustained by fire at age of 18 mos. Later treated by ultraviolet ray over a long period of time. Excised tissue proved to be carcinoma. Defect covered by thick split graft three weeks after excision of tumor area with Bovie Knife. Final effect secured by use of a wig.

Case 7. Figures 15, 16 and 17. Defect of

lower lip following radiation for epithelial tumor. Repair done two years after last treatment. The so-called Abbe or modified Estlander operation was used to repair the defect, namely, a pedicle of upper lip used to repair the lower lip defect.

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Psychiatry in National Defense*

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Fast moving events of the past months have affected all of us, but still it is hard for us to realize that a topic suitable for discussion before this State Medical Association might be concerned with military matters and national defense. This is the reality which we must face, the sooner the better. The physicians of this country have placed on them one of the gravest responsibilities they have ever experienced. Men of various ages may be registered as selectees by the National Selective Service; draft boards may be formed and be functioning in choosing men; but the physicians of the country are equally responsible for the proper selection of men fit for duty in a highly specialized mechanized defense or war. In addition the physicians are placed in a position where they can contribute not only to the military service, but to the public health, personal welfare and economic future of the citizens as well.

The conduct of war is no longer banding together large forces of men who are physically able to carry on combat. The combat zone now reaches into the factory, the farm, the home and throughout the community. The conduct of war may be impeded by inef-

ficiency at home just as seriously as in a front line. The active fighting units no longer may depend on gross man power and equipment. They are now functioning as groups of specialists in warfare, fast moving, highly trained, technical, integrated teams pyramided one on the other. The mental status of each individual making up such a team is now as important as his physical status. We are now concerned with total defense, defense at home as well as at the front. Emphasis is now to be laid on the selection of men for jobs at home or in the military service, wherever they may be of the utmost value for defense. Furthermore, total defense includes keeping men where they will not break down mentally or physically.

Reasons for this movement or change of emphasis are manifold, and are apparent to us as we view the conflicts going on in the world. More clear to us, however, are some lessons learned from our own experience with the World War.

Psychiatry had not set the world on fire by 1918, but events thereabouts kindled some fires under psychiatry. One result shows in the careful studies made of the records of the World War, from which some interesting figures may be quoted.

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Colonel Porter, of the Army Medical School and Walter Reed Hospital, Colonel Madigan of the Surgeon General's Office, Colonel Cooley of the Veterans Administration Facility, and others have summarized these facts on behalf of the psychiatric seminars of the Selective Service System. These seminars have been held in various parts of the country in an effort to bring to the attention of the profession the importance of the psychiatric examinations of selectees.

First, let us see what are the facts from the World War and Army records.

I wish to quote certain figures taken from Vol. X, "The Medical Department of the United States Army in the World War."

Admissions of officers and enlisted men from April, 1917, to December, 1919, because of neuropsychiatric conditions were 97,657. Discharges of the same were 41,976.

Total number of rejections (neuropsychiatric) by local boards in different states were 549,099.

The Provost Marshall's report covering only the period of February, 1918, to October, 1918, (nine months) states that because of mental deficiency, nervous and mental disorders, rejections by local draft boards and camp surgeons amounted to 48,242. 13,612 were accepted by local boards but rejected by camp surgeons. 9,268 more were discharged from the Army after acceptance by local boards and camp surgeons. More than 8,000 neuropsychiatric cases, mostly psychoses, were returned from overseas prior to June, 1919.

A psychiatrist spotted one mentally ill man practically at the gangplank during one embarkation. It was too late to hold him; he was taken to France in charge of two soldiers, kept there pending proper procedure and finally returned in charge of two soldiers. No one knows the countless similar problems faced by the Army Services, and the injustice to the soldier.

Eternal vigilance on the part of the examining physician is the only defense we have against these appalling figures. The careful screen of the psychiatric examination is the prevention and cure of this problem.

Next, let us see what has landed in the lap of the Veterans Bureau as the result of the facts I have just discussed.

Monetary benefits of the 17 years existence of the Veterans Bureau from 1923-40 paid out to claimants of disabilities of the nervous system alone were \$641,857,704. Paid out for the fiscal year of 1940 to 68,727 neuropsychiatric claims was \$41,889,363. These cases were 20 per cent of beneficiaries of all types of conditions. Any disability, if

manifested before January 1, 1925, can be classified as service connected. There is a presumption of soundness at time of enlistment, and each case must be considered thus, "unless recorded otherwise by the examining physician at time of enlistment." There are none of us who begrudge the rightful care and treatment of men incurring disabilities in the service, but we physicians are really responsible for injustice to the taxpayers of the nation if we do not exercise due care in eliminating these individuals who show signs of neuropsychiatric disorder prior to induction in the service.

More figures make the picture worse. In 1939 there were 11,000 men classed as permanently disabled, and over one half of these were neuropsychiatric, mostly psychoses. They are receiving \$700,000 a month pensions and disability payments ranging from \$150 to \$175 per month.

Hospital treatment for benefit of the neuropsychiatric cases from 1933 to 1940 inclusive cost \$282,679,990. Add this to the figure mentioned above of monetary benefits from 1923 to 1940 (\$641,857,704) and we get a grand total of \$924,537,613—practically a billion dollars.

These costs do not include the expenses of domiciliary care, national homes for disabled soldiers, etc.

One serious angle of this is the fact that neuropsychiatric cases have a slow turn-over and they "freeze" Veteran Bureau beds. In June, 1940 there were 27 veteran mental hospitals handling 33,000 beneficiaries, and they have long waiting lists. These 33,000 psychiatric cases are over one half of all the hospital cases.

Finally, it has been estimated that every man who breaks down from the service with psychiatric disability, will cost the government between \$30,000 to \$34,000 during his life time. In civilian life or State Hospital care, the figure is approximately \$7,000.

THE ROLE OF THE PHYSICIAN

These facts and figures from the World War and the Veterans Administration cannot be lightly dismissed. As a natural result the Selective Service of 1941 now calls our attention and study to these same problems with the hope that we may profit by previous experience. As physicians we are now called on for an improved job as our contribution to national defense. To help establish in our minds what might be considered the new attitude we should use, let me quote the words of Dr. Clarence Dykstra, former Director of the Selective Service:

"The Selective Service is . . . interested in diagnostic problems about heart and lungs and gastro-intestinal systems, the blood, the bones and joints, and everything else that

has medical bearing on the suitability of registrants for induction into the Army.

"The work of specialists in the fields, however, is less in need of immediate attention than is that of the psychiatrist. The work of these other specialists, whether for Selective Service or on the Army Induction Board, is much nearer to their routine practice than the work which we ask of the psychiatrist. The psychiatrist ordinarily sees fully developed problems, whether in the hospital for mental disorders, the clinic, or in his own office practice. We have to ask him to orient himself from that type of work to the diagnosis of early or merely potential mental problems. We want him to use his skill to exclude, as far as possible, all those people who would be seriously damaged in their capacity for useful living by the circumstances which they would encounter if they were inducted for military training. We want him to exclude, as far as possible, all those who, because of personal peculiarities and deviations, would break down in the service or who would have an unfavorable effect upon discipline and morale. And we want him to exclude those who, however well they might do under actual military training, would probably break down when they were returned to civil life.

"This is a large order, we realize. I think you now see why, while we intend to neglect no relevant aspect of medical science, we feel psychiatry is the first in line."

We must accept the challenge contained in these statements.

The local board, with its consulting physician is our first screen. By utilization of the information available to the board members and through the examination of the local physician, the most unfit should be rejected. Secondly, those individuals in community life who do contribute even in a small way, but who under greater stress and strain, or in a new environment could not adjust, are another group who should not be inducted. Thirdly, certain individuals, psychologically unsuited for a military profession in which they would become a burden rather than an asset, should be retained at home where they can continue normal useful life. Perhaps some critical individuals might say some one is being favored or pampered, that it is unfair. But why should we waste any anxiety over giving an occasional man an unjustified possible advantage? Our real concern must be to give the military service the important advantage of receiving only those who unquestionably can be trained into smoothly functioning, efficient, well adjusted soldiers.

If doubt arises regarding the status of any selectee, the local board or physician may call for the aid of the medical advisory

board. If the experienced psychiatric consultant is not available, which may be true in certain localities, there are other sources of help available. Every State Hospital staff stands ready to aid in examining those few cases. The Veterans Administration Facility with large hospitals and experienced staff, located in some nearby area, likewise will respond to any request for consultation.

What are the conditions and types of problems or personalities which should be looked for in determining suitability of selectees for service? Medical Circular No. 1 of the Selective Service, and Circular Letter No. 19 of the Surgeon General's Office of the War Department, give us a very complete outline which I shall briefly discuss. The groups listed are intended solely as a practical guide, and physicians should follow them with discretion and judgment, in order not to reject applicants or selectees without adequate and positive diagnostic indications of their unsuitability for active service, since their unwarranted rejection would not only constitute an injustice to the individual concerned, but would deprive the government of their service. A direct quotation from Circular Letter No. 19 is very significant:

"The soldier must be looked upon as a fighting unit requiring certain limited and definite qualifications. Not all types of individuals are adaptable to restrictions and inhibitions of personal desires and comforts, nor to deprivation of rest, food, shelter, and, as the occasion oftentimes arises, to extraordinary demands of prolonged physical and mental activity during active military service. It must be remembered that many individuals of abnormal personality traits, who are capable of satisfactory adult adjustment in civilian life where numerous avenues of escape are available, will be at a total loss to adjust themselves to a pattern which is more or less inflexible and, of necessity, delimited and circumscribed as to self-expression. When thrown on their own meager resources of adaptation in Army environment, in contact with all kinds of personalities, some who are just able to adapt themselves to life under the most favorable conditions will not fit into the one iron mold which experience has taught is essential to military success."

With this attitude in mind let us consider the different groups of common neuropsychiatric conditions.

Group I: Mental Defect or Deficiency

Intelligence cannot be definitely estimated, and there are no infallible tests. The history of failure in school in the lower grades, inability to hold jobs, or inability to be properly disciplined, a lack of information, ability to learn or reason, and general signs of men-

tal inadequacy are characteristic. The average community knows who these men are and what capacity they possess. Psychometric testing can be used for classification of doubtful cases.

Group II: Psychopathic Personalities

These are the individuals who are not mentally ill, who are not mentally deficient, but nevertheless are unable to learn by experience, to measure up to ordinary social responsibilities. They are emotionally unstable, undependable, impulsive, always in difficulties, and often in conflict with the law. They cannot be disciplined, will not conform to authority and are constantly cultivating insubordination. Among these are the homosexuals, grotesque liars, vagabonds, wanderers, swindlers, kleptomaniacs, pyromaniacs, alcoholics, and irritable and arrogant guard house lawyers. They are among the worst of the men suitable for military service.

It may be true that some psychopaths and morons make good soldiers. Officers of the Army as well as experienced psychiatrists also tell us, however, that it is impossible to detect what types would turn out to be satisfactory.

Group III: Major Abnormalities of Mood

Some people are so mercurial in their reactions that they have unreasonable episodes of elation or depression in which their judgment is seriously impaired. The more extreme examples we know as manic depressive psychoses. If they are known to have received medical or nursing care because of an excitement or depression, they should be rejected.

One officer, commanding an artillery brigade, developed an acute mood swing during an engagement. Because of his resulting distraction and excitement, he changed his firing directions and range so frequently that he bombarded his own troops more than the enemy.

Group IV: Psychoneurotic Disorders

Hysteria, psychasthenia, anxiety neurosis, and anxiety states are clinical psychoneurotics who are unsuitable. Their symptoms may be hysterical and not understandable; they may have periods of morbid anxiety or fear; compulsions or obsessions and hypochondriacal states may control much of their lives.

This quotation from Circular Letter No. 19 is important:

"For purposes of classification, there are to be placed in this group persons showing the so-called *psychosomatic* disorders, mental or personality difficulties chiefly characterized by signs and symptoms of systemic disease—respiratory, gastrointestinal, cardiac, genito-urinary, or dermatological. These include many cases of asthma, urticaria,

"neurasthenic states," neurocirculatory asthenia, "effort syndrome" or D.A.H., paroxysmal tachycardia, gastric hyperacidity, pylorospasm, gastric and duodenal ulceration, spastic constipation and diarrhea, mucous colitis, impotency, urinary urgency or frequency, and incontinence of semen. Look for a clear relationship in the history of attacks coinciding with periods of *personal stress*, and of improvement with separations from the accustomed stressful surroundings. These conditions sometimes appear early in the course of pre-psychotic states discussed under Group V."

These are the individuals who, when examined, show marked vasomotor instability, characterized by breathlessness, unstable pulse rate, unstable blood pressure, poor exercise tolerance test, tremors, cold, clammy, sweating extremities, all types of sensory complaints and many other signs indicating disturbances in the autonomic nervous system. They do not do well in military service. It is difficult to know whom to reject or accept in this group. The best we can do is to estimate as far as we can from their history what their capacity may be in meeting stress and strain.

They may break down in active service and be a problem instead of an asset; but undisturbed in civilian life, their satisfactory adjustment may be maintained, enabling them to keep their self respect and contribute like others to total defense.

Group V: Praecox Group

Prepsychotic and postpsychotic personalities of this dementia praecox (schizophrenic) group usually have a history of an acute or insidious personality change, in which their social interests, habits, thought and behavior deteriorate. This change may be shown by attitudes of suspiciousness, ideas of self importance (paranoid personalities), unusual irritability or inappropriate emotional reaction, extreme seclusiveness, silliness and unmotivated emotional or motor outbursts. These are the characteristics of grave mental disease and probably will progress to delusions of persecution, delusions of control by bizarre or supernatural agencies, hallucinations of sight and hearing, sexual delusions, oddities of thought, speech and behavior that are obviously queer, abnormal psychotic states. In the presence of marked indifference, apathetic emotional reactions and a history of withdrawal from social, family or other environment contacts, careful study is indicated. A history of the school, vocational, personal career and family life will spot these personalities and conditions.

One such history illustrates a pathetic case. A boy, youngest in his family, grew

up as the favored and best loved child. At 16 he changed personality, and tried to become a man by smoking, drinking, reading Kipling and getting gonorrhea. Soon he was showing more malignant personality changes and began to hear the voices of his father and God. Upon admission to the Army he was reacting more acutely in a paranoid way to his hallucinations. One day he was placed on guard duty over a prisoner in the guard house. Believing the occupant of the guard house was responsible for the accusing voices he heard, he shot the defenseless prisoner dead.

The dangerous undependability of this group may take many avenues of manifestation.

Group VI: Chronic Inebriety

The hard drinker may not necessarily be a poor soldier, but the chronic alcoholic who is morbidly addicted or dependent on alcohol is of no value in military service. A verified history of frequent breach of law when drunk, or hospital treatment on account of alcoholism should be regarded as disqualifying. Drug addiction history or signs, or history of arrest for narcotic law violation is disqualifying.

Group VII: Syphilis of the Central Nervous System

Although blood examinations may help us in eliminating selectees suffering from syphilis of the central nervous system, we must be watchful for anomalous reactions of the pupils, facial tremors, speech defects, writing defects, apathetic, depressed or euphoric mood, memory loss and discrepancies in relating history facts. Knee jerks may be plus, minus, or normal.

Group VIII: Other Organic Diseases Of Brain, Spinal Cord, or Peripheral Nerves

Existent organic nervous disease should always disqualify for military service. Certain after effects of organic nervous disease need not be causes for rejection provided (1) that the disease is no longer operative and is not likely to recur, (2) that the effect left by it does not prevent a satisfactory fulfillment of military duties. Certain organic nervous diseases present few symptoms and may pass undetected by even the most skillful examiners. These include multiple sclerosis, progressive muscular atrophies, dystrophies, and syringomyelia. Epilepsy is particularly troublesome in the service. Special investigation into medical history should be pursued in any case having a history of so-called faintness, dizziness, spasms of the face or extremities, or evidence of deep scars on tongue, face and head.

At any time doubt arises in the minds of the local board or examining physicians, no

effort should be spared to have the selectee given a special examination by the medical advisory board psychiatrist or his equivalent.

The final paragraph of Circular Letter No. 19 leaves no doubt as to what the viewpoint of the military service is in reference these points we have been discussing:

"The Army is one of the elements of national defense and its present mission is one of preparation for an offensive-defensive type of warfare. It is in no sense a social service or curative agency. It is to be considered neither a haven of rest for the wanderer or shiftless, nor a corrective school for the misfits, the ne'er-do-wells, the feeble-minded or the chronic offender. Furthermore, it is neither a gymnasium for the training and development of the undernourished or undeveloped, nor is it a psychiatric clinic for the proper adjustment to adulthood emotional development. Therefore, there is no place within the Army for the physical or mental weakling, the potential or pre-psychotic, or the behavior problem. If an individual is a behavior problem in the civilian community, he will certainly become a more intensified problem in the service."

Aside from this attitude of the service, and our duty to do our work in accordance with this attitude, there exists a further duty to the men themselves. This question is not alone one of unfitness for military service; it is also a question of fitness and vocational suitability of a man as a civilian. We are preparing not for war (I hope)—but for total defense. Rejected men are not thrown away—they are retained at their efficiency level for industry, etc. It may be a cardinal sin against the national defense to induct a man into the service to which he may be unsuited, to which he cannot adjust and contribute; but it is a mortal sin against the man himself. For in his civilian life, where he is maintaining himself under reasonably favorable conditions, he has his self respect, he is making a contribution personally or economically, small though it be, and he probably will not become a burden on the community for any long period of time at least. To maintain this balance is as much our duty in terms of public health as in terms of total defense. As physicians who are responsible for the examination and classification of these men, we find ourselves today in the front line trench of defense. As has been characteristic of our great profession in the past, I know we will meet our responsibility squarely, intelligently and completely, and do our duty in combating these great problems which threaten civilization and our democracy.

The Doctor's Relation to Public Health*

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Gentlemen, I speak to you today as one of you who has viewed this subject from both sides of the fence, namely: as a Public Health Worker and as a private practitioner. I feel very kindly toward the medical profession because I am responsible to it for my knowledge of medicine which it impounded in me according to the provisions of the Hypocratic Oath. I am also sympathetic with the basic principles of public health work.

Public health activities grew out of conditions that created tasks which no other methods had coped with. Doctors have been prone to shunt public health to the side somewhat as an individual and altruistic task and to allow it to fall on other shoulders. This especially is true in times when no epidemics threaten. As a result of this, the layman gradually has filtered into the public health field. Statisticians, so-called doctors of public health, sanitarians, public health educational directors, food inspectors and numerous others. In a like manner and through efforts to raise funds to carry on a public health program, the slimy hand of politics has entered into the picture. Thus it is hard to carry on a public health program without these various elements entering into it. The blame for such conditions are two-fold. The blame partially rests on the profession for its seeming indifference, and upon leaders in public health for allowing laymen, idealists and politicians to enter a purely medical field. Each year public health expands; each year more money is spent in this field; each year new conditions and diseases are sought out and a new field of activity begun. First it was for control of contagions and epidemics, then parasitic diseases came into the limelight. Later came tuberculosis campaigns. Today the venereal disease program is shining brightly. Tomorrow it probably will be pneumonia, diabetes, heart diseases or something else that will have a public appeal. One by one, the private practitioner largely has sacrificed these

conditions from his practice until his field has been reduced to very acute conditions and obstetrics, and the latter is now in the process of public health development.

The profession has been at fault in many instances for allowing this poor state of affairs to exist so that it has been subject to invasion by idealists. But today, with better training and a more solid front, every doctor should voluntarily become a public health worker. I, therefore, would like to advocate a plan to revert all pre-school and school examinations and all inoculations to the private practitioners in their respective communities. This, of course, is not exactly a new plan. I submitted a similar plan two years ago when I was engaged in public health work in the Panhandle. After all it is the private doctor who has to see these children when they become ill, rather than the health workers.

My idea would be to submit a card to each student from the school authorities, stating that the school health program suggested that each student be inoculated against diphtheria, small pox and possible typhoid fever (in regions where this latter disease prevails, or if any traveling is to be done), and that a Schick Test and Tuberculin Test be done. A thorough physical examination should likewise be done on each individual in infancy, at pre-school age, when he enters school and every three years thereafter while he is in school—not just a hasty look at the throat and teeth and hurried listen to the chest, and the slap on the back indicative of a clean slate, which creates a false sense of security—but an examination that will be thorough from the hair to the toenails. The parents could intimate the doctor of their choice on the referred card and the doctor selected should see the children individually or in small groups in his office, with an element of time designated that will allow thoroughness and instill confidence. He, in turn, is to receive a nominal fee (for this combined service), which is to be decided upon by the profession and the school health authorities in each locality. Those individuals able to pay

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for this service will do so. Indigent cases, and those in the lower wage earning brackets, will receive it gratis, the doctor being partly compensated for his services from a school health fund provided by the schools, the county and various welfare and civic organizations, and from similar funds now defraying the expenses of public health activity. The State will furnish all biologics and supplies for such programs.

This will tend to bring the patient and the doctor of his choice closer together, so that in time of illness both will be familiar. It will familiarize people with the idea of a yearly physical check-up. It will increase the doctor's income, help to build a better race by more concentrated individual attention, be cheaper to the taxpayer who is now paying one-third of his annual income in taxes, and release the health official from the yoke of an inadequate yet burdensome school health program so that he can devote more time to educational work, public health information (enough money is spent each year on patent medicines and quackery to give adequate care to all), and epidemiological problems.

If this plan were earnestly pursued by the practitioner, and providing he had followed his clientele from the time of delivery to entrance into school, there would not be such a gap existing between the doctor and the layman today.

This is not an appeal to abolish public health—it is indeed just the reverse. It is, however, a suggestion to place the above mentioned phases of public health work back into the hands of the private practitioner where it belongs, and to release the health

officials of these burdens so that they can attend to other public health problems. In short, it is a plan whereby each private practitioner becomes a voluntary, interested, devoted and compensated public health worker. That almost approaches the ideal.

I also think that the profession should encourage a higher type of men to enter public health work so that a thorough educational and epidemiological program can be carried out, rather than to frown upon public health, and, as a result, drive the misfit, the ne'er-do-well and others into the field for a purely economical reason. The latter might carry on a program of pumping typhoid vaccine into every Tom, Dick and Harry they could find and expect to accomplish very much by these expensive and unnecessary programs. Public health work needs men and women who hold the profession in high esteem. This is imperative if public health work is to stay under the wing of the medical profession. Public health is here to stay, but it is frankly up to the profession to put forth every effort to keep it under the wing of organized, ethical medicine, to weed out the unnecessary expense, the lay parasites, politicians and the idealists who have hitched their wagons to the public health star, the misfits and ne'er-do-wells who are receiving a free ride at the expense of the profession and the taxpayer.

The Wagner Act is but a warning to us that our ranks must be drawn closer together. That we must do away with internal strife and personal prejudice and put on a solid front, not for our personal sakes, but for the sake of the people and society in general.

Surgical Procedures for the Relief of Intractable Pain*

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Intractable pain is a result of chemical or physical irritation to peripheral nerves and fibers carrying the sensation of pain. In cases where the cause cannot be removed,

then the pain can frequently be relieved by interrupting the sensory fibers. We shall review a few of the conditions today in which intractable pain is the prominent symptom, and the steps to consider in giving relief. Due to the broadness of the subject and the limitation of time we have purposely

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omitted consideration of the surgery of the sympathetic nervous system, which is of great value in relieving such painful conditions as angina pectoris.

One instance in which the mechanical cause for intractable pain can be removed is that of severe sciatic pain as a result of ruptured intervertebral disc with extrusion of the nucleus pulposus. There is usually the history of trauma with residual low back pain. Later the pain radiates down one of the thighs and frequently to the lateral aspect of the leg and foot. The pain is aggravated by exercise, and severe pain is usually produced with coughing or sneezing and by any motion which tends to put a stretch on the nerve root, such as stooping over, straight leg raising, etc. We characterize this type of pain as a root pain. We know of no one particular finding that is found only in this condition, and it is only after careful evaluation of the history, physical findings, x-rays of spine, examination of spinal fluid and occasionally spinograms that a diagnosis can be made.

The operative treatment is the removal of the extruded nucleus pulposus, thus relieving the pressure on the nerve root. Recent refinements in technique has made it possible to carry out the procedure through an interlaminar approach, thus preserving to a great degree the bony structures of the spine. We wish to emphasize that extruded disc is only one of several causes for low back pain, and each case must be studied individually and all neurological and orthopedic possibilities considered.

Another example of physical trauma causing intractable pain is that of the scalenus anticus syndrome, or compression of the neuro-vascular bundle between the anterior scalenus muscle and the first rib. The clinical picture is that long recognized in certain cases of cervical rib. The pain is severe and is usually in the shoulder radiating downward to the hand. Early the lower portion of the brachial plexus is involved with pain only in the ulnar distribution. In long standing severe cases the entire plexus may become involved and with sufficient compression of the subclavian artery, gangrene will develop.

The treatment is that of sectioning the anterior scalenus muscle at its attachment to the rib, allowing the artery and brachial plexus to slide forward. This usually gives prompt and permanent relief from pain.

We will now briefly consider some of the conditions in which the cause for the pain is not known or, if known, cannot be removed. Pain can be relieved by destruction of the peripheral nerve by chemicals or surgical section. This is of great value in the case of a nerve that is wholly or to a large

degree composed of sensory fibers. Alcohol injection of the trigeminal branches thus gives temporary relief in tic douloureux. However, when the nerve is composed of both sensory and motor fibers, this is frequently impractical, inasmuch as the resulting paralysis often causes as much discomfort as the pre-existing pain. Therefore, other means have been developed for interrupting the pain pathways.

One procedure for the relief of intractable pain is the sectioning of the sensory root. This is most often used in the treatment of trigeminal neuralgia, glossopharyngeal neuralgia, and radiculitis. Trigeminal neuralgia is characterized by paroxysms of sharp, lancinating pains over the course of the fifth cranial nerve. The etiology is unknown. The diagnosis can usually be made from the history of the paroxysms of severe pain in the distribution of one or more branches of the trigeminal nerve, radiating to the distal portion of the nerve, usually precipitated by some local movement or stimulation of the face. There are no abnormal neurological findings. Permanent relief is obtained by sectioning the sensory retroganglionic fibers.

Glossopharyngeal neuralgia, the other major neuralgia, is characterized by severe lancinating pains in the distribution of the ninth cranial nerve. The pain is described as being in the ear and running to the tonsil. The pain is frequently precipitated by swallowing. Whereas the diagnosis of tic douloureux can be proved by alcohol injection of the involved branches, cocaineization of the throat will temporarily stop the pain of glossopharyngeal neuralgia. Intracranial section of the ninth cranial nerve will give permanent relief.

The fibers conducting pain in the dorsal or sensory spinal roots may be interrupted by the use of intrathecal alcohol injection. It is to be remembered that if sufficient alcohol is used, not only will the sensory fibers conducting pain, but also the cord, motor roots and fibers of the sensory root carrying other sensation than pain, become involved. Absolute alcohol, being lighter than cerebro-spinal fluid, will rise to the top. The patient should therefore be placed in such a position that the sensory roots to be effected will be at the highest point. This can best be accomplished by having the patient lying on his side and tipped slightly forward. The portion to be injected can then be elevated with sand bags or the kidney rest of the operating table. A spinal puncture is then done just above or below the nerve root to be treated and 3 or 4 cc. of spinal fluid removed. Then 6 to 10 minims of absolute alcohol is injected slowly. A feeling of warmth occurs over the area supplied by the roots treated, and, if suc-

cessful, the pain should disappear within a few minutes. The patient should remain in the same position for some 20 to 30 minutes following the injection. In case the pain is not relieved, it is better to repeat the procedure another day, inasmuch as a large quantity of alcohol will produce paralysis.

The pain pathways may also be interrupted within the spinal cord. This is accomplished by chordotomy or section of the pain tracts through a laminectomy wound. The indication for this procedure is intractable pain in the extremities, pelvis, abdomen, or chest, usually due to malignancy, tabes dorsalis or diabetic neuritis that has not responded to more conservative measures. The technique for the procedure is sectioning the spinothalamic tracts at a desired level after exposing the cord by way of laminectomy. The procedure is not without danger and at times the bladder control is disturbed. Others complain of severe root pain at the level of the chordotomy, and care should be taken to avoid traumatization of the nerve roots at the site of the operation.

SUMMARY

In summary, a few conditions have been reviewed in which an intractable pain is

present, and some of the means for relief have been cited. We must remember that pain is a valuable symptom and the diagnosis should be made before measures for permanent relief are instituted. A further fact is worthy of consideration and that is the individuality of pain. Each person has his own particular threshold for pain and reacts in his own way to a given stimulus. This presents a great problem to the physician trying to give the correct treatment for relief of intractable pain.

It is our personal belief that very careful consideration be given to all measures for relief of pain by interruption of the pain pathways before narcotics are used to the point of addiction. It has been our experience that the individual with intractable pain having used narcotics regularly for any length of time, not only suffers from his original pain but further from the effect of the addiction. Then, if pain fibers are at this time interrupted surgically, he receives little or no benefit from the procedure. The decision as to the treatment of intractable pain should be made early, and if possible, relief should be given before the patient is destitute, psychically, morally, physically and financially.

For the local Treatment of Acute Anterior Urethritis

(DUE TO NEISSERIA GONORRHEAE)

SILVER PICRATE*
Wyeth

Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by *Neisseria gonorrhoeae*.¹ An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

A complete technique of treatment and literature will be sent upon request

*Silver Picrate is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," *Am. J. Syph., Gon. & Ven. Dis.*, 23, 201 (March), 1939.

JOHN WYETH & BROTHER, INCORPORATED, PHILADELPHIA

• *THE PRESIDENT'S PAGE* •

The National Physicians Committee for the extension of medical service is now a virile, functioning organization formed for the purpose of carrying out the policy indicated by the name.

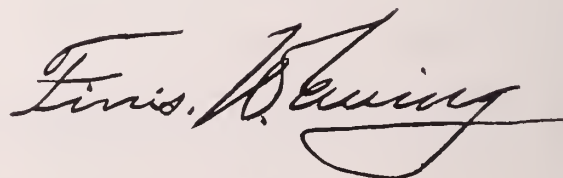
This organization can and will act in many ways and with much more effectiveness than the American Medical Association and, while there is no connection between the American Medical Association and the National Physicians Committee, the American Medical Association is in full accord with the program and efforts of the National Physicians Committee, and every member of the committee is also a member of the American Medical Association.

The committee is financed exclusively by voluntary subscriptions by doctors and those who do not believe in the political control of medicine. The men who have volunteered to serve as members of the committee are all men of unquestioned ability and singleness of purpose, and will with our aid carry our banner and keep it placed where it rightfully belongs as a beacon for all ethical and scientific organizations to follow.

The National Physicians Committee is urgently needed to combat the foul and slanderous propaganda that has been and is being dissiminated by those who are either poorly informed or, from selfish motives, seek to obtain unholy profits by devious methods.

The operations of this committee are financed by your subscriptions and mine. Let us make our contributions at once and as liberal as possible. This is our fight to secure a continuation of our American way.

Let's do our part today.

A handwritten signature in dark ink, reading "Finis B. Quiring". The signature is written in a cursive style with a large, sweeping flourish at the end.

President.

For Comforting Relief in Asthma and Hay Fever

Racēphedrine Hydrochloride

(UPJOHN)

Racēphedrine Hydrochloride produces dilation of the bronchi after local or systemic administration. It is therefore employed in the treatment of asthma, and is useful to prevent the attacks. It is also used in the treatment of hay fever and urticaria.

On local application to mucous membranes, Racēphedrine contracts the capillaries to a moderate degree and thus diminishes hyperemia and reduces swelling. It is used in the nostrils to shrink the congested mucosa in rhinitis and sinusitis.

Solution Racēphedrine Hydrochloride consists of 1% of the drug in a modified Ringer's solution containing sodium chloride 0.85%, potassium chloride 0.03%, calcium chloride 0.025%, magnesium chloride 0.01%, and chlorobutanol 0.5% (for stabilization purposes).

Solution Racēphedrine Hydrochloride 1% is available in one ounce dropper bottles for prescriptions, in pint bottles for office use. Capsules Racēphedrine Hydrochloride, $\frac{3}{8}$ grain, are packaged in bottles of 40 and 250.



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Upjohn

KALAMAZOO, MICHIGAN



Racēphedrine, prepared synthetically by a process which does not depend upon the plant *ma huang* for its raw material, is a racemic, optically inactive mixture of levo- and dextro-rotatory ephedrine. Thus it contains two of the four possible ephedrine stereoisomers.

• EDITORIALS •

STRAINING AT A GREAT RESULT IN THE MISCARRIAGE OF JUSTICE

You are requested to take a look at your so-called "Trust," and consider its origin, its development, its scientific, cultural and sociological accomplishments, its uninterrupted policy of service to humanity, and its contributions to civilization.

Six thousand years ago when civilization, Minerva-like, sprang from the banks of the Nile, the first great physician, Imhotep, was there to ease the strain of monarchy and to stay the progress of vascular hypertension which then, as now, plagued the lives of kings and potentates. Certainly the influence of Imhotep's science and philosophy conditioned the Hippocratic Oath which established rules of medical practice for all time.

If the American Medical Association is a trust, it is the only one approximately 100 years old operating under a constitution and by-laws written for the protection of the people 2500 years ago. An instrument making the patient's interests first and the physician's second. The physician must render service with no thought of selfish interests until his patrons and the public are cared for. A strange requirement for a trust!

In Book III, the "Age of Enlightenment," Gomperz (1) devotes his first chapter to "The Physicians." Please note his opinion of the Hippocratic Oath. "At this point we have to mention a document of which the antiquity is not its sole claim to veneration. 'The Physician's Oath' is a monument of the highest rank in the history of civilization."

It is interesting to note that Socrates, whose straight thinking and level reasoning on the everyday problems presented by his youthful followers, had much to do with the rapid development of scientific principles. Of even greater interest is the fact that because of his straightforward teachings and logical application of knowledge, he was condemned to death by his government and that he courageously gave his life for the sake of truth. No doubt he recognized medicine as the chief exponent of his philosophy of life when he employed his last breath to exclaim: "Creto, we owe a cock to Aesculapius. Will you see that it is paid?"

During the life of the American Medical Association and through its influence, the people of the United States have profited by our knowledge of the bacterial origin of disease and the control made possible by

what we have learned about infection and immunity; they have welcomed the great boon of anesthesia; they have witnessed the significant development of knowledge concerning vitamins, food values and nutrition; they have observed the amazing change in attitude toward the insane and the therapeutic restoration of a notable per cent of those formerly considered hopeless to a useful place in society; they have seen the life-saving growth of aseptic surgery and the effective treatment of many non-surgical conditions, including specific therapy in some of the most deadly diseases. At this moment they are witnessing the marvelous results of chemo-therapy. They accept the benefits of all the improved diagnostic, preventive and therapeutic measures without a full consciousness of their utter dependence upon them.

These few references show that the American Medical Association has covered a century of remarkable medical progress. Through the influence of these advances and the initiative of organized medicine, the United States has been able to develop a great system of public health, including sanitary engineering. This, with the aid of the medical profession in other lines of preventive medicine, has enabled this Nation to enjoy the best general medical service, the lowest level of morbidity and mortality in the world.

In the past 25 years average longevity has been advanced from 48 to 62 years. In this respect other nations with similar social and economic conditions cannot compare with the United States. This is particularly true of those countries where the government has provided some form of socialized medicine which has invariably increased morbidity and mortality and doubled the cost of medical care. Increased knowledge of the causation and prevention of disease has made it possible for us to live with relative safety in large cities and to engage successfully in the intercourse and commerce of the world.

This advanced knowledge made it possible for the United States to build the Panama Canal. Through lack of knowledge and characteristic impatience, the politicians, engineers and government contractors, irritated by the insistent sanitary demands of General Gorgas, would have defeated this great undertaking had it not been for Theodore Roosevelt's abiding faith in medical science and his willingness to listen to medical coun-

(1) Gomperz: Greek Thinkers, Vol. 1.

cil in spite of the demands of other groups. These results have been accomplished through free professional initiative and independent action.

The time honored principles of practice referred to above, coupled with the refusal of the physicians to profit by life saving discoveries, have protected the public and facilitated the interests of the government. If political leaders had been directed by similar principles, Socrates would not have been a martyr to truth; Rome might have been able to push back the avaricious barbarians; the ambition of modern dictators might be rusting in well-deserved chains and less obvious corruption in high places ashamed to raise its head. Medicine originated in the "primal sympathy of man for man;" it is as old as civilization, as sound and patient as Chinese philosophy. Its principles are fundamental to human welfare and cannot be permanently changed by the obstruction of ambitious politicians who do not understand the true significance of present medical knowledge.

In the government's case against the American Medical Association, the jurors were sworn to a difficult task. The Department of Justice seemed bent upon conviction and it was evident that the prosecution misunderstood or misinterpreted the motives of those cited in the charges. If labor unions had been on trial, the task would have been relatively easy, but conviction would have been untenable because the law gives labor the right to strike and picket, even when freedom from war, death and slavery hang upon uninterrupted production for defense.

L.J.M.

OUR OBLIGATION

Public opinion is without doubt the one item that molds the policy of a democratic people, and success or failure, unanimity or division, depends upon the forces which develop this opinion to the stage of action.

The President has waged within himself a tremendous battle between his patriotic duty and his allegiance to a large minority responsible for his election, this group being largely responsible for his inability to carry on a successful program of Preparedness for Defense which is the "Bull" for Preparedness for War.

The President is beginning to emerge on the patriotic side of this battle and, as he does, we will find a developing and increasing degree of unanimity of action in support of a patriotic program.

We must now support the President in this time of undeclared war; whether or not we like him personally, he is going to be our President, and as such our Commander-in-

Chief behind whom every Physician must accept his responsibility.

It is difficult for the administration to do an about face with regard to these large minority groups who have been larger than the Government itself. It will be difficult for many who have opposed the policies of the administration to do an about face and support the administration, but now both must do this very thing if this undeclared war is to be brought to a successful conclusion, and no war can be successfully fought without a patriotic and 100 per cent co-operative Medical Department.

We hope to have as much of the truth from those in command as they feel can be safely divulged, and then the Medical Profession will trim its sails accordingly and be fully prepared to deliver adequate Medical Service.

ATTENTION

We are reprinting a bulletin issued by the Federal Drug Administration as mailed to all Oklahoma County doctors by the Veazey Drug Company of Oklahoma City.

This bulletin is exceptionally pertinent as it pertains to the sale of certain drugs which are particularly potent or which may be a menace to health when used by the lay public without proper prescriptions.

Bulletin From Federal Drug Administration

Section 502 (f) (1) of the Act requires drugs to bear labeling giving adequate directions for use. The Act authorizes exemptions by regulation from this requirement. Under this mandate, an exemption has been authorized applicable to drugs intended for professional use or dispensed on prescription. This exemption authorizes omission of directions where the label carries the phrase "Caution: To be used only by or on the prescription of a _____" (to be filled in by the word "Physician," "Dentist," or "Veterinarian.") The basis for this exemption, as will be immediately apparent, is that the physician's specific directions for each individual patient will be far more adequate than any general directions supplied by the manufacturer. The regulation provides that the exemption shall expire when articles so labeled are sold otherwise than to practitioners or on their prescription. Section 301, particularly paragraphs (c) and (k), is applicable in such cases, and, you will note, makes the retailer liable to the penalties provided.

Generally speaking the drugs which are labeled with the so-called prescription legend are those which are particularly potent or which may be a menace to health when used for self-medication. A typical list of such drugs would include:

Bartiburates, Cinchophen, Cantharides (for internal use), Sulfapyridine, Aconite, Colchicine, Chrysarobin or Goa Powder, Emetine, Radium, Phenobarbital and Derivatives, Neocinchophen and other Cinchophen Derivatives, Aminopyrine, Sulfathiazole, Benzadrine Sulfate (for internal administration), Chrysophanic Acid, Phosphides, Thiocyanates, Sulfanilamide, Thyroid, Colchicum, Phosphorus.

And the anthelmintic drugs:

Tetrachlorethylene, Wormseed oil (Chenopodium Oil), Carbon Tetrachloride (for internal use), Male Fern (Aspidium), Santonin, Thymol.

Proceedings of House of Delegates

Oklahoma State Medical Association

May 19, 20—Oklahoma City, Oklahoma

The following transcripts of the two meetings of the House of Delegates, in Oklahoma City, May 19 and 20, have been edited. All actions by the House of Delegates have been included, but should any members of the Association desire more detailed information, it will be furnished by the office of the Executive Secretary, 210 Plaza Court, Oklahoma City.

MONDAY, MAY 19, 1941

The House of Delegates of the Oklahoma State Medical Association convened in the Silver Glade Room, Skirvin Tower Hotel, Oklahoma City, Monday, May 19, at 8:30 P.M., Dr. J. D. Osborn, Speaker of the House, presiding.

Upon being called to order, the Credentials Committee—Dr. W. A. Howard, Chelsea; Dr. P. M. McNeill, Oklahoma City; and Dr. V. C. Tisdal, Elk City—announced a quorum present and upon motion duly seconded, the report of the Credentials Committee was adopted.

The Speaker next announced the appointment of Sergeant-at-Arms and the Reference Committee as follows: Sergeant-at-Arms—Dr. G. L. Johnson, Pauls Valley; Dr. C. E. White, Muskogee, and Dr. R. C. Pigford, Tulsa; Reference Committee—Dr. H. K. Speed, Sayre, Dr. M. H. Newman, Shattuck; and D. H. O'Donoghue, Oklahoma City.

Following these appointments, the Chair called for the reading of the minutes of the last meeting and the special session, and upon motion by Dr. L. S. Willour, McAlester, and adoption by the House, the reading of the minutes was dispensed with since they had previously been published in the Journal of the Association.

Following this order of business, the Speaker called for the reports of officers as provided in Chapter VII, Section 3, of the By-Laws, and Dr. Henry H. Turner, Oklahoma City, President of the Association, gave the report of the Council which was accepted.

Following the report of the Council, the Speaker called for reports of the Councilors of the Association and requested that a motion be made to accept the reports of Councilors—Dr. O. E. Templin, Alva, District No. 1; Dr. A. S. Risser, Blackwell, District No. 3; and Dr. Shade D. Neely, Muskogee, District No. 8—as their reports had been published in the April issue of the Journal. The requested motion was placed by Dr. McLain Rogers, duly seconded and carried.

Following this action, reports of the Council Districts by the Councilors were given with the exception of reports by Dr. John A. Walker, Shawnee, District No. 7, and Dr. Donald A. Angus, Lawton, District No. 5, who had been appointed by the Council to serve the unexpired term of Dr. Walter A. Hardy of Ardmore. Dr. Angus was excused from making a report inasmuch as he had served for only a few weeks.

On the completion of the reports of the Councilors, the Speaker called for the next order of business which was reports of the Standing Committees. The following committees reported: Publicity, Judicial and Professional Relations, Public Policy, and Scientific Work. The reports of these Committees, with exception of the Scientific Work Committee, were approved as printed in the April Journal. The report of the Scientific Work Committee was given verbally by the Chairman, Dr. C. R. Rountree, Oklahoma City, and following the report, the Speaker addressed the house upon the exceptionally fine program as arranged by this Committee and called for a vote of appreciation which was duly recorded.

Following the reports of the Standing Committees, were reports of the Special Committees. Special Committees reporting were Conservation of Vision, Postgrad-

uate Medical Teaching, Necrology, Study and Control of Cancer, and Medical Economics. These Committee reports were accepted as published in the April Journal, and the discussion of the report of the Medical Economics Committee was augmented by a discussion of the report by the Chairman, Dr. Horace Reed, Oklahoma City, and the Executive Secretary, Mr. R. H. Graham. Following the completion of the reading and discussion of the reports, the Chair entertained a motion for their adoption which was duly put and accepted.

After the acceptance of the reports, Dr. L. S. Willour requested, in the form of a motion, that the Necrology report be given reverence by a moment's standing silence in honor of those who had passed to their great reward.

The next order of business was the introduction of amendments to the Constitution and By-Laws. The Speaker of the House called upon the Vice-Speaker, Dr. P. P. Nesbitt, Tulsa, to assume the Chair and Dr. Nesbitt, upon taking the Chair, called for proposed amendments to the Constitution and By-Laws. At this time, Dr. James Stevenson of Tulsa was recognized for the purpose of introducing amendments to the By-Laws and introduced the following amendment:

Chapter III, Section 2, Subsection (b), of the By-Laws be amended to read as follows: "The House of Delegates may be called into and convene into special session only under the conditions provided in Article VII, Section 3, of the Constitution."

Chapter IX, Section 1, of the By-Laws shall be amended to read as follows: "Credentials; Annual Session; Scientific Work; Public Policy; Medical Education and Hospitals; Publicity; and Judicial and Professional Relations."

Chapter IX, Section 2, of the By-Laws shall be amended to read as follows: "The committee on Annual Session shall be composed of the President, President-elect and Secretary-Treasurer. All other standing committees designated in Section 1 shall be composed of three (3) members who shall be appointed by the President subject to approval of the Council for a term of three (3) years, and until a successor has been appointed and qualified — appointments being staggered so that there shall be only one appointed in any one year unless a vacancy shall occur, which shall be filled by the President for the unexpired term of the vacancy."

Chapter XI, Section 3, Subsection (a), of the By-Laws shall be amended to read as follows: "When a member in good standing of a component county society, except members who are in the United States Service, State Health Service, or one whose employment makes his residence in any community temporary, moves to another county in the state, he shall be given a written certificate of his membership by the Secretary of his county society without cost. This certificate shall accompany application for membership in the county society in the county to which the member has moved. Pending action on the application, such member shall be considered in good standing in the society from which he was certified. In case of rejection, the applicant may appeal for relief to the Council; appeal must be made in writing and must be delivered into the hands of the Council not more than thirty days (30) days following date of notice of rejection. Consideration of the appeal shall be given by the Council at the earliest convenient time possible, not more than ninety (90) days shall elapse following the date the appeal has been received by the Council until a hearing shall be given to the applicant and to the component county society, and the action taken by the Council on the appeal shall be final. Under no circumstances shall membership be

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5.00	750.00	1,000.00
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retained in a component county medical society for a period longer than one (1) year following the issuance of a certificate of removal."

Following the introduction of these amendments by Dr. Stevenson, the Chair called for further amendments and since no other Delegate requested the floor for the purpose of the introduction of amendments, the Chair advised that, in compliance with the Constitution and By-Laws, these amendments would necessarily have to lay over until the next day before they could be adopted or rejected.

The Speaker next recognized Dr. Maurice J. Searle, Tulsa, and Dr. Searle extended to the House of Delegates an invitation for the 1942 Annual Meeting of the Association to meet in Tulsa. Upon motion of Dr. G. L. Johnson, properly seconded, the invitation of the Tulsa County Medical Society was accepted.

At this time, the Speaker of the House, Dr. J. D. Osborn, resumed the chair.

The next order of business to come before the House of Delegates was the adoption of the budget of the Association. The report was given by the Secretary-Treasurer, Dr. L. S. Willour, and upon his motion, seconded by Dr. A. S. Risser, the budget, as read, was unanimously adopted.

Following the adoption of the budget, dues of the Association for 1942 were considered, and upon motion of Dr. J. S. Fulton of Atoka, seconded by Dr. Risser, dues for 1942 were set at \$10—this amount being the same as had been in effect the previous year. Following the adoption of the motion establishing the dues for 1942, Dr. Finis W. Ewing of Muskogee was given the floor for the purpose of discussing membership in the Association for those doctors who are now in the Military Service. Dr. Ewing pointed out that many of the doctors now in Military Service were previous members of the Association but had not renewed their membership by paying their dues for 1941. Dr. Ewing then moved that the action of the House in adopting Dr. Fulton's motion be amended to the extent that all doctors, who have been called into Military Service and have been inducted, be made members of the Association upon the payment of annual dues in the amount of \$4. Dr. Ewing's motion was seconded by Dr. G. L. Johnson and carried unanimously.

Following this order of business, Dr. Henry H. Turner, Oklahoma City, Chairman of the State Medical Preparedness Committee, was recognized for the purpose of discussing the Second Request of the American Medical Association on Medical Preparedness. Dr. Turner requested that this discussion be given by the Executive Secretary, Mr. Graham, and the discussion of this particular problem dealt with the manner and procedure of filling out, by the County Societies, the questionnaires sent from the executive office at the request of the American Medical Association. Item 6 and 7, which related to the naming of the minimum number of doctors who were necessary for the operation of Hospitals, Public Health Departments, etc., and likewise necessary for the preservation of civilian population, were the questions most commonly either not answered or given an evasive conclusion. It was pointed out that this was necessary information, and that while it was regrettable that such a procedure was deemed essential, all effort by the County Societies to comply with the request should be made. The question was discussed at great length by the Delegates and upon completion of the discussion, the following motion by Dr. C. K. Logan of Hominy was duly seconded and adopted. Motion: "That those reports that are unsatisfactory be returned to the County Societies, and that they be asked for another report."

The next order of business was the introduction of resolutions. All resolutions introduced were referred to the Reference Committee, and the report of the Committee and action of the House of Delegates on these resolutions will appear in the minutes of the second day.

The Speaker, following the introduction of resolutions, recognized the Executive Secretary who read the names

of members of the Association who had been nominated by the County Societies for Honorary Membership. Those nominated were as follows: Dr. J. W. Browning, Geary; Dr. C. E. Wann, Albany; Dr. P. L. Cain, Albany; Dr. C. E. Sexton, Stillwater; Dr. Calbert H. Beach, Glencoe, (deceased); and Dr. E. M. Harris, Cushing. Upon motion of Dr. C. H. Haralson of Tulsa, and duly seconded, the House elected three members to Honorary Membership.

Following the election of the Honorary Members, Dr. O. E. Templin, Councilor of District No. 1, requested the House of Delegates to instruct the Delegates of the Association to the American Medical Association to place the name of Dr. E. P. Clapper of Waynoka before the House of Delegates of the American Medical Association for election to Affiliate Membership. The motion was made by Dr. Templin that the Delegates be so instructed, and upon being duly seconded by Dr. Risser, the motion carried.

Following the action on Dr. Clapper, the Speaker of the House requested the attention of the Delegates for the purpose of explaining the Annual Registration Act which would be in force July 1. Dr. Osborn pointed out the protection given the public in the enactment of this law and the different effects that it would have on the practice of medicine in Oklahoma. Dr. Osborn produced numerous exhibits which clearly brought out the discrepancies and laxity in the present pursuits of the practice of medicine, which the Act would tend to eliminate, and urged all of the Delegates, upon returning to their respective County Societies, to see that the intents and purposes of the Act were explained to the local membership and full cooperation given the Board of Medical Examiners.

Following this discussion, the meeting adjourned at 11:45 P.M., and the Speaker announced that the House would reconvene the next morning at 8:30 A.M.

TUESDAY, MAY 20, 1941

Pursuant to the announcement of the Chair on the previous day, the House of Delegates of the Oklahoma State Medical Association convened at 8:30 A.M., Silver Glade Room, Skirvin Tower Hotel, Oklahoma City.

Following roll call by the Credentials Committee, the Committee announced a quorum present. Upon motion by Dr. F. W. Bowdway of Ardmore, properly seconded, the report of the Credentials Committee was adopted.

The Speaker opened the meeting by drawing the attention of the Delegates to the special effort made by the General Committee to make the commercial exhibits exceedingly attractive and expressed the hope that all members would take sufficient time to visit these exhibits.

The next order of business was the reading of resolutions which had been introduced at the preceding session and referred to the Reference Committee. The Speaker recognized Dr. H. K. Speed of Sayre, Chairman of the Reference Committee, and Dr. Speed requested that the Executive Secretary, Mr. Graham, give the report of the Committee. The Chair next recognized Mr. Graham, and all resolutions recommended by the Reference Committee were adopted. The resolutions adopted are as follows:

State Health Department

"The House of Delegates in this 49th Annual Session desires to express thanks and appreciation to the Oklahoma State Health Department and the Children's Bureau of Washington, D. C., for their liberal financial support, making possible the postgraduate instruction program in Obstetrics and Pediatrics in the State of Oklahoma.

It is the judgment of this House of Delegates, from numerous reports throughout the State, that hundreds of physicians in our medical profession have benefitted by reason of these courses.

Further, that a copy of this resolution be sent to Dr. Grady F. Mathews, Commissioner, Oklahoma State Health Department; also a copy to the Children's Bureau, Washington, D. C.

SIGNED: Henry H. Turner, M.D."

Commonwealth Fund

"The House of Delegates in this 49th Annual Session desires to express thanks and appreciation to the Commonwealth Fund of New York for their liberal financial support, making possible the postgraduate instruction program in Obstetrics and Pediatrics in the State of Oklahoma.

It is the judgment of this House of Delegates, from numerous reports throughout the State, that hundreds of physicians in our medical profession have benefited by reason of these courses.

SIGNED: Henry H. Turner, M.D."

Medical Preparedness

"BE IT RESOLVED BY THE OKLAHOMA STATE MEDICAL ASSOCIATION, that WHEREAS, The United States and its entire citizenship is now being called upon to supply the needed manpower to protect the government, and

WHEREAS, It is the duty of every citizen of the United States to render an individual service so that the combined action of the people of this Government may carry on all the necessary functions for defense, and

WHEREAS, The number of physical and mental rejections of selectees under the Selective Service Law, throughout the entire nation, has been far above that which normally would be expected, and WHEREAS, the young men of Oklahoma between the ages of twenty-one and thirty-five years have been rejected by the armed forces for causes which, in many instances, are of such nature that can be corrected, and, in some instances, if suitable physical examination and ethical, professional medical advice is given prior to the examination, the selectee would be able to pass the physical examinations required by the Selective Service System;

NOW, THEREFORE, BE IT RESOLVED that the House of Delegates, convened in its annual session on this 20th day of May, 1941, offer to the people of Oklahoma coming within the confines of the Selective Service Law, the professional knowledge of the entire membership of the Oklahoma State Medical Association so that the manpower of Oklahoma who are patriotic, loyal, American citizens and unable to finance the prehabilitation and the rehabilitation of their physical defects may have the necessary medical and surgical service.

BE IT FURTHER RESOLVED that we call upon the various hospitals of the State to lend every possible aid, and most respectfully request the Governor of the State of Oklahoma, the Honorable Leon C. Phillips, the Commissioner of Health, Dr. Grady F. Mathews, and other Departments of State, to cooperate to the fullest extent."

Medical Students and Selective Service

"WHEREAS, The National Selective Draft Board has left the status of the Medical student draftees to the discretion of the individual State Draft Boards and;

WHEREAS, The American Medical Association and its component parts, the various State Medical Associations, are devoting their efforts to National Defense and have volunteered their services as an organization and;

WHEREAS, A number of physicians over the State and Nation have already been called into military service and the need for more doctors in the Army is increasing, leaving a threat of insufficient number of doctors at home, and;

WHEREAS, Under the modern system of medical education the medical student of today is required to compete with many in order to be selected to enter a medical school and;

WHEREAS, The training these medical students are receiving in school as potential doctors is of far more importance to National Defense than one year of military service offered in the Draft;

BE IT RESOLVED, That the Oklahoma State Medical Association request the Oklahoma Selective Service Draft Board to give proper consideration to the need of maintaining adequate medical services in Oklahoma by deferring all Medical Students and Interns who are satis-

factorily pursuing their course of study and training and who will ultimately likely be practicing physicians and surgeons."

Specialties Board

"WHEREAS, There are many organizations interested in health and medical preparedness;

WHEREAS, These organizations represent various specialties interested not only in the prevention but the treatment of disease; and

WHEREAS, Many recommendations and plans for medical preparedness will be made by these groups; therefore be it

RESOLVED, That the Oklahoma State Medical Association concur in the resolution adopted by the Committee on Medical Preparedness of the American Medical Association, and that the Oklahoma State Medical Association recommend to the President of the United States and to the National Defense Commission, through its Senators and Representatives, the immediate appointment of a medical coordinator of the activities of all medical service related to the national defense program."

Medical Education in National Emergency

"WHEREAS, The maintenance of the health of the nation is fundamental to its welfare; and

WHEREAS, The education and training of medical personnel requires long periods of time and special selection of men and women qualified to undertake such study; and

WHEREAS, It is necessary for such purposes to maintain continuous education of medical students; therefore be it

RESOLVED, That the Oklahoma State Medical Association concur in the resolution adopted by the Committee on Medical Preparedness of the American Medical Association and requests the National Defense Commission, the military and naval services, the United States Public Health Service and the Congress, in preparing for the conscription of personnel, to provide for the continuation of medical education and for exemption from conscription of all medical students and interns in accredited and approved institutions."

State Medical Society of Wisconsin

"WHEREAS, The House of Delegates of the Oklahoma State Medical Association has been advised that on September 10, 11 and 12, 1941, there will be convened in Madison, Wisconsin, the One Hundredth Anniversary Meeting of the State Medical Society of Wisconsin.

NOW THEREFORE BE IT RESOLVED, That the House of Delegates of the Oklahoma State Medical Association express congratulations to the State Medical Society of Wisconsin on this Anniversary and commend the Wisconsin Society for the place it has played in American Medicine and also for its diligent perusal of better medical services for the people of Wisconsin because of its having always exerted its effort for their protection in matters of health and welfare."

Following the adoption of these resolutions, final action was taken on the amendments to the By-Laws introduced at the previous session. Upon motion of Dr. L. S. Willour, duly seconded, the amendments, as read, were adopted.

The next order of business was the election of officers.

The Speaker announced that the first election would be that of Delegate to the American Medical Association to serve for 1941-1942. Dr. C. W. Arrendell, Ponca City, nominated Dr. A. S. Risser, Blackwell, and there being no further nominations, upon motion of Dr. A. H. Bungardt, Cordell, the nominations were closed, and Dr. Risser was elected by acclamation.

The Speaker next called for nominations for President-Elect and recognized Dr. H. C. Weber of Bartlesville. Dr. Weber placed in nomination the name of Dr. J. D. Osborn of Frederick. There being no further nominations, Dr. G. L. Johnson moved that the nominations be closed and that Dr. Osborn be elected by acclamation. The nomination was properly seconded and carried.

Following his election, Dr. Osborn made the following

remarks to the Delegates: "Gentlemen: It is rather difficult for me to believe that you are sincere in asking me to make a speech when, by force of circumstance, you have listened to me for four years. But I would be ungrateful indeed if I didn't take this opportunity to express to you my sincere thanks and deep appreciation for the honor you have bestowed upon me. I do consider it an honor to be elected at the head of an organization such as the Oklahoma State Medical Association, and I sincerely thank you. I can only promise you that I will do my dead level best to make you proud of your selection."

Following the election of President-Elect, nominations were in order for Vice-President. Dr. G. L. Johnson nominated Dr. F. W. Broadway of Ardmore, and Dr. James Stevenson of Tulsa nominated Dr. C. R. Rountree of Oklahoma City. Dr. H. K. Speed then moved that the nominations cease, and before action was taken upon Dr. Speed's motion, Dr. Broadway requested Dr. Johnson to withdraw his name as nominee for Vice-President. Dr. Johnson acquiesced in Dr. Broadway's request, and upon motion of Dr. L. S. Willour, the Secretary cast a unanimous ballot for Dr. Rountree as Vice-President.

Following the election of Dr. Rountree as Vice-President of the Association, nominations were in order for Secretary-Treasurer. The Speaker recognized Dr. T. H. McCarley of McAlester, who nominated Dr. L. S. Willour to succeed himself. Before other nominations could be made, Dr. Willour asked for the privilege of the floor, which was accorded him, and he addressed the House of Delegates in the following manner: "Gentlemen: I have served on the Council for twenty-five years as a-Councilor, President-Elect, President, and since the death of Dr. Thompson as Secretary-Treasurer. I have enjoyed this service throughout all the years, and I have tried to serve you as well as I knew how. Since the establishment of a full-time executive office and the employment of a full-time Executive Secretary, there have been many marked improvements in the Oklahoma State Medical Association. Mr. Graham is doing an excellent job. He has the support of the Council of the Association. No longer is there any work for the Secretary-Treasurer to do except that of keeping the minutes of the Council and the House of Delegates, and this is done by the Executive Secretary. All books and records are kept in the executive office. All the work that is now connected with the office of Secretary-Treasurer is that of writing the checks which correspond to the vouchers that are sent to him. Since there has been an Executive Secretary, it has been necessary that all vouchers be sent to McAlester, and the checks then sent back to Oklahoma City. This consumes much time and is rather awkward and inconvenient. There is one important thing, however, connected with the office of the Secretary-Treasurer and that is that he becomes a member of the Council. Gentlemen, I am not going to have my name before this House as a candidate for Secretary-Treasurer. I have served this State Association for twenty-five years, and I think that is quite long enough. To have a Secretary-Treasurer outside Oklahoma City is indeed very awkward and inconvenient. I should like to withdraw my name as a nominee for the office of Secretary-Treasurer but I do thank Dr. McCarley for nominating me (I have been associated with him since 1910, and we are very close and intimate friends). Again I should like to say that I do not wish my name to come before the House of Delegates, and in withdrawing my name, I should like to place in nomination a man from Oklahoma City—that of Dr. L. J. Moorman, for Secretary-Treasurer."

Acting upon Dr. Willour's request, Dr. McCarley withdrew the nomination of Dr. Willour as a nominee for Secretary-Treasurer. The chair then recognized Dr. H. K. Speed who moved that the nominations be closed and Dr. Moorman be elected by acclamation. The motion was properly seconded and carried.

Since the next order of business was the election of Councilors for Districts Nos. 3, 4 and 5, the Speaker

requested the House to be at ease while the Delegates from these Councilor Districts prepared the nominations for Councilors from their respective districts.

During the recess, the Chair recognized Dr. McLain Rogers, the retiring Delegate from the Association to the American Medical Association, and Dr. Rogers made the following remarks concerning his retirement as Delegate: "I congratulate the State Association for their selection of Dr. A. S. Risser as Delegate to the American Medical Association. It is a proud memory to enjoy the confidence of a responsible position. I am very happy indeed to see this fine gentleman selected in my stead. I sincerely hope that I will not lose my enthusiasm, and that I may continue to work with the men of this Association as I have in the past. It is not all fun in being a Delegate to the American Medical Association. A Delegate, although he does go to the Convention with his expenses paid, if he does his duty, works hard continuously for three days. He is, by that time, tired out and barely has an opportunity to view the exhibits. I do feel, however, that the man who goes as a Delegate should certainly have the support and confidence of the State Association that he is representing, and I do think the precedent of continuing a man in service is a splendid thing. National problems are continually coming before the House, and I think, it is of necessity, that men who represent you Nationally should be at many of your officers meetings. I sincerely hope that you will give Dr. Risser your whole-hearted support along with your other Delegate, Dr. Howard, who is able and active. I thank you for all the courtesies that have been extended me by the Association. I am sure that I have had more honors than are rightfully mine. I like work and have all my life, and it is indeed a happy feeling with me to see some good come of the great cause—the principles of medicine."

Following these remarks by Dr. Rogers, the Chair recognized Dr. Finis W. Ewing, and Dr. Ewing responded to Dr. Rogers' remarks by saying: "Personally, I think this Association would indeed be very careless of one of its obligations if we did not express our appreciation to the man who has so long and so ably represented the Oklahoma State Medical Association as a Delegate to the American Medical Association. We have just reason to be proud of all those who have represented this State Association as a Delegate to the American Medical Association. We are continuing to send outstanding men in sending Dr. Risser to the A.M.A., but Dr. Rogers, with his long service not only in the House of Delegates of the American Medical Association but his work in connection with the Association, has indeed been appreciated. He has been active and useful; his advice and counsel have always been profitable; and there is no reason to compare one man's services with another, but there is not a more useful man in medicine in Oklahoma or in any other state than Dr. McLain Rogers. At this time, I should like for this House of Delegates to acclaim him a very, very useful man."

At the conclusion of Dr. Ewing's remarks, Dr. James Stevenson of Tulsa requested the floor and made the following observation concerning Dr. L. S. Willour's faithful service on the Council of the Association: "I quite agree with everything Dr. Ewing has said about Dr. Rogers. We do indeed appreciate his long term of service. I also want to say a word or two about a man who has had a long term and deserves great praise. This man fought for the State Association in early times when the Association was a thing depending, at times, on the soul efforts of one, two, or three loyal members of the Association. I sincerely think that a man who has devoted twenty-five years of his time and ability to the activities of the Association is also due acclaim for it, and I so request it for Dr. L. S. Willour." This appreciation was duly expressed to Dr. Willour.

At this time, the Delegates from Councilor Districts Nos. 3, 4 and 5 advised the Chair that their nominations for Councilors were in order, and Dr. A. S. Risser of

Blackwell nominated Dr. C. W. Arrendell of Ponca City as Councilor from District No. 3; Dr. L. R. Kirby of Okeene nominated Dr. Tom Lowry of Oklahoma City as Councilor from District No. 4; and Dr. F. W. Broadway of Ardmore nominated Dr. J. I. Hollingsworth of Waurika as Councilor from District No. 5.

Following these nominations, Dr. L. S. Willour moved the election of these doctors as Councilors. The motion was seconded by Dr. Risser and carried.

Following the election of Councilors, Dr. H. K. Speed, Chairman of the Reference Committee, was recognized by the Chair and explained that due to an oversight a matter had been presented to him, not in the form of a resolution but one which he thought the House of Delegates should give earnest consideration, and asked that Dr. Henry H. Turner be recognized to explain the request. Dr. Turner, upon being recognized, stated that the Vital Statistics Bureau of the Public Health Department desired to make an exhaustive study on the causes of death that may have been influenced by pregnancy or childbirth, that the matter had been brought to the attention of the Committee on Maternity and Infancy of the Association, and their approval had been given. Dr. Turner further explained that all death certificates mailed to the Bureau of Vital Statistics, which might give as the cause of death a situation developed by pregnancy or childbirth, would be investigated, and the doctor signing the death certificate would be sent a questionnaire to fill out which would aid in the study of the causes of death by the Committee on Maternal Mortality of the Children's Bureau, and that all doctors returning the completed questionnaire would be paid \$2. Dr. Turner moved that the House of Delegates approve this procedure and cooperate with the Public Health Department in furthering this study. The motion was duly seconded and carried.

The Chair next recognized Dr. O. E. Templin who, as Councilor for District No. 1, requested that the House of Delegates (as provided in Chapter IV, Section 3, of the By-Laws) delete from District No. 1 Major County and place it in District No. 3 inasmuch as there is an insufficient number of doctors in Major County to maintain a county organization, and that the doctors of the county belonged to the Garfield County Medical Society which is in District No. 3. Dr. Templin further explained that due to road conditions it was more or less impossible for the doctors in Major County to affiliate with another county society in the first district. Dr. Templin's motion was substantiated by a second, and the Speaker announced that this would call for a two-thirds vote and requested the Delegates to rise until counted by the tellers. Following the count, the Chair announced that the motion carried.

At this time, Dr. Osborn, as Speaker, addressed the House of Delegates by saying that since he had just been elected President-Elect that he did not feel that he should serve as both President-Elect and Speaker of the House even though his term as Speaker did not expire for one more year, and requested that the House of Delegates accept his resignation. The House acquiesced in the Speaker's request, and the Speaker next called for nominations for a Speaker of the House to serve the unexpired term. Dr. F. W. Broadway of Ardmore nominated Dr. H. K. Speed of Sayre, and Dr. W. Albert Cook of Tulsa nominated Dr. P. P. Nesbitt of Tulsa. Nominations were then closed on motion of Dr. O. E. Templin, and a count of the ballots gave the election to Dr. Nesbitt.

The Chair next recognized Dr. Turner, retiring President of the Association, and Dr. Turner spoke briefly in the following manner: "I want to thank each and every one of you for the honor that you bestowed upon me last year in being elected President of your Association. I also want to thank you for the fine and excellent cooperation extended me by the membership of the Association during the year of my administration. I should also like to express to you my sincere appre-

ciation for the cooperation and assistance you have given me as your State Medical Preparedness Chairman in completing the questionnaires on medical preparedness that have been forwarded by the American Medical Association. In regard to the Second Request of the American Medical Association, I know each County will meet the request to the best of its ability. As brought out in the discussion last night, it is our duty to assume this obligation. I should also like to congratulate the other retiring officers as I know, from the very close association with them during the past year, they have done a very wonderful job. I want each and every one of you to know that, in the future and at any time, if I can be of service or assistance to any of you, all you have to do is to call upon me. Being your President has been an honor for which I shall always be grateful."

Following Dr. Turner's remarks, Dr. Maurice J. Searle of Tulsa was next recognized and paid tribute to Dr. W. Albert Cook of Tulsa for his services in the past as Delegate to the American Medical Association.

At this time, the Speaker advised that since Dr. Nesbitt had been elevated to the Speakership of the House that Dr. Nesbitt desired to tender his resignation as Vice-Speaker, which resignation was accepted, and the Speaker called for nominations to fill this vacancy. Dr. F. W. Broadway placed in nomination Dr. H. K. Speed of Sayre. Dr. L. S. Willour moved that the nominations be closed and that Dr. Speed be elected by acclamation to fill the unexpired term of Dr. Nesbitt. Dr. Willour's motion was seconded and carried.

Following the election of Dr. Speed, the Chair announced that the desk of the Speaker was cleared and unless some of the Delegates had other business to be transacted a motion for adjournment was in order. Dr. W. S. Larrabee of Tulsa moved the House adjourn. Motion was seconded and carried.

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BALTIMORE, MARYLAND

ASSOCIATION ACTIVITIES

AMERICAN MEDICAL ASSOCIATION HOLDS NINETY-SECOND ANNUAL SESSION

Thirty-seven Oklahoma doctors attended the 1941 Session of the American Medical Association, held in Cleveland, Ohio, June 2-6.

Oklahoma doctors attending included: William H. Bailey, Ray M. Balyeat, Coyne H. Campbell, Anson L. Clark, C. A. Gallagher, Ephraim Goldfain, Wayne M. Hull, William K. Ishmael, Hugh Jeter, Everett S. Lain, John H. Lamb, R. B. Murdock, Ralph E. Myers, Horace Reed, John W. Riley, Henry H. Turner, Lois Lyon Wells, W. K. West and J. P. Wolff, all of Oklahoma City; O. H. Cowart, Bristow; Isadore Dyer, Tahlequah; W. A. Fowler, Norman; W. D. Hoover, O. C. Armstrong, Leo Lowbeer, Ivo V. Nelson, R. C. Pigford, George R. Russell, Victor K. Allen, and H. Boyd Stewart, all of Tulsa; W. A. Howard, Chelsea; J. Holland Howe, Ponca City; Ray H. Lindsey, Pauls Valley; Arthur S. Risser, Blackwell; Charles M. Siever, Picher; W. C. Thompson, Stillwater, and Donovan Tool, Edmond.

Dr. Henry H. Turner, Oklahoma City, was again present in the Scientific Exhibits with his exhibit on Clinical Use of Testosterone Propionate.

Dr. Hugh Jeter and Dr. C. H. Epps, Oklahoma City, likewise participated in the Scientific Exhibits with a study on the Diagnostic Value of Paracentesis and Other Aspiration Fluid Examinations.

In the Scientific Section, Oklahoma was represented by Dr. John Lamb, Oklahoma City, who read a paper before the Section on Dermatology and Syphilology. Dr. Lamb's paper was a report on "Cancer of the Lower Lip in 315 Cases." Dr. Lamb also participated in the moving-picture section showing "Technique on the Insertion of Interstitial Radium Needles."

Dr. W. A. Howard, Chelsea, and Dr. A. S. Risser, Blackwell, Oklahoma Delegates, were early arrivals and attended all meetings of the House of Delegates.

Two annual elections of extreme importance and interest are the elections for the Distinguished Service Award and President-Elect. Nominees for the Award, as presented by the Committee on Awards, were Dr. James Ewing, New York; Dr. Simon Flexner, New York; and Dr. Ludvig Hektoen, Chicago. Dr. Ewing received a majority of the votes, and will be the recipient of the award for 1941. Dr. Fred W. Rankin, Lexington, Ky., was the only nominee for President-Elect and received the unanimous vote of the House. Other officers elected were Dr. Charles A. Dukes, Oakland, Calif., Vice-President; Dr. Olin West, Chicago, Ill., Secretary; Dr. Herman L. Kretschmer, Chicago, Ill., Treasurer; Dr. Harrison H. Shoulders, Nashville, Tenn., Speaker of the House of Delegates; and Dr. R. W. Fouts, Omaha, Nebr., Vice-Speaker of the House of Delegates. Trustees elected were Dr. Ernest E. Irons, Chicago, Ill., and Dr. Charles W. Roberts, Atlanta, Ga.

Pan American Meeting In 1941

In line with Western Hemisphere solidarity, the Council on Scientific Assembly recommended that the 1942 Session, to be held in Atlantic City, be designated as a Pan American Meeting. Representatives from all South and Central American Countries, Mexico, Cuba, Puerto Rico, and Canada will be invited to attend and participate in the scientific program.

Resolutions Adopted

The following resolutions adopted by the House of Delegates, which are of major importance and interest, may be read in their entirety in the June 14 and 21 issues of the Journal of the American Medical Association. In brief, the contents of these resolutions are as follows:

The staffs of hospitals training interns shall have

physicians especially trained in pathology, radiology, anesthesiology and physical medicine in charge of these departments, and that they shall be members of the hospital staff with voice and vote.

That a Committee from the American Medical Association be appointed to confer with the American Hospital Association and the Catholic Hospital Association concerning medical services offered by prepayment hospitalization plans as they may pertain to physician-patient relationship.

That, in view of the declared National Emergency, the United States Government arrange immediately for the establishment of a central authority with representatives of the Civilian Medical Profession to be known as the Procurement and Assignment Agency for Physicians for the Military Forces, Public Health Service, and the Civilian and Industrial need of the nation.

That the Scientific Program include a Section on General Practice. An experimental session to be held in 1942, and if successful in point of attendance and interest to become a permanent section, if approved at the 1942 Session.

A motion was unanimously adopted applauding and appreciating the spirit of the American Medical Women in offering of their services to the United States Government.

Changes In Constitution and By-Laws

Two amendments to the Constitution and By-Laws were introduced. The amendment to the By-Laws changing Chapter XV, Section 1, Item 7, from Section on Pharmacology and Therapeutics to Section on Experimental Medicine and Therapeutics was adopted. An amendment to the Constitution amending Article VI, Section 1, to provide for eleven trustees instead of nine, as now provided, will be acted upon at the 1942 Session.

Executive Session

An Executive Session of the House of Delegates was held Tuesday afternoon, June 3, for the purpose of hearing a report from the Board of Trustees concerning the Indictment and Trial of the American Medical Association and others for the restraint of trade in the District of Columbia. (Page 2791 A.M.A. Journal). The delegates voted unanimously to recommend to the Board of Trustees that the attorneys of the A.M.A. appeal the judgment based on the verdict of guilty in the case of the United States vs. the American Medical Association et al.

The last day of the House of Delegates found four cities bidding for the 1944 Annual Session. Invitations were received from New York, Philadelphia, Atlantic City and St. Louis. The Board of Trustees reported on the facilities available in these cities for the handling of the Convention, and upon the first ballot, the city of St. Louis was selected for 1944.

The complete minutes of the Cleveland Session have been reported in the June 14 and 21 issues of the Journal of the American Medical Association.

Classified Advertisements

FOR SALE: A good drug store in a town of 650 inhabitants with a surrounding territory of about 15 miles, which offers an excellent opportunity for medical practice. Also, one of the best stretches of farming land in Southeastern Oklahoma.

Any physician interested in the store, the land and the practice may correspond with Mrs. Nancy V. Fuston, Bokchito.



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STATE HOSPITAL ASSOCIATION TO ISSUE MONTHLY BULLETIN

One of the greatest forward steps ever taken by the Oklahoma State Hospital Association is the announcement by the Board of Trustees that in the future the Association will issue monthly a publication to be known as the "Bulletin of the Oklahoma State Hospital Association."

The Bulletin will be used for the purpose of keeping the membership advised of activities of the Association as well as the problems and responsibilities facing the hospitals, not only of Oklahoma but of the nation. Pertinent articles on hospital management will be monthly features and will be particularly valuable in as much as they will be of a local state nature.

The Bulletin Committee, as announced by the Board of Trustees, includes Mr. J. Q. Bush, Jr., Bone and Joint hospital, Oklahoma City; Mr. R. L. Loy, Jr., Oklahoma City General Hospital, Oklahoma City, and Mr. Walter R. McBee, Group Hospital Service, Tulsa.

Every hospital in the state eligible for membership should not only give financial support to the Hospital Association by becoming a member but should take an active part in participating in its activities and an interest in the Bulletin.

Membership is \$10 a year, and correspondence concerning membership should be addressed to Mr. J. O. Bush, Jr., Secretary, Oklahoma City.

Dr. S. N. Mayberry (1867-1941)

Depriving the Association of one of its most beloved members and the Garfield County Medical society of one of its oldest physicians and surgeons, death claimed Dr. S. N. Mayberry, Enid, June 22.

Doctor Mayberry had been a member of the medical profession in Garfield county since September 16, 1893, when the Cherokee Strip was opened. First located at Waukomis, he moved from there to Enid in 1899.

He completed his medical education at Garfield university (now Friends university) in Wichita, Kan., and was graduated also from Washington university in St. Louis. He began his practice of medicine in Mount Hope, Kan.

In Garfield, county, he was known to have established the first hospital in Enid. Then, in 1908, he built the University hospital in Enid. Recently, he was recognized as the oldest physician in years of service on the Santa Fe, Frisco and Rock Island railroads; he had been local surgeon for the system for 35 years.

Always active in the Association, Doctor Mayberry had been on programs of the American Medical Association in numerous places, and when the visiting Doctors clinic was organized at Rochester, Minn., he was chosen as its first president.

Doctor Mayberry was born in New Sharron, Iowa, but moved to Mount Hope when he was a small boy.

He is survived by his wife, a daughter, Mrs. Dean Bell; a son, Edward Mayberry; four grandchildren Jennie Ann and Richard Bell and Jane Alice and S. N. Mayberry, III; a brother, George Mayberry, and a twin sister, Mrs. Frank Lamar, all of Enid; and two other sisters, Mrs. Alice Barriek, Enid, and Mrs. Gertie Veil of California.

G. E. X-Ray Staff Marks Six Months Anniversary in New Offices

The first day of August will mark a six months anniversary for the staff of General Electric X-Ray Branch Corporation in their new headquarters at 627 N. W. 10th Street, Oklahoma City.

The new offices, opened February 1, include a new display room and offers parking facilities. The corporation has access to all hospitals and clinics in Oklahoma City.

The same staff, under the management of Mr. Charles Bohan, is serving the public.



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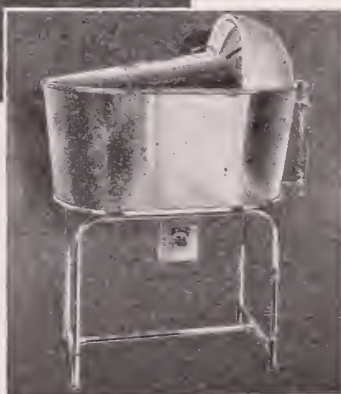
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*JOSLIN, C. L. and HELMS, S. T., Arch. Ped., 54:533 (Sept.) 1937



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Dr. Edmund Sheppard Ferguson (1871-1941)

Dr. Edmund Sheppard Ferguson was born at "Maplehurst," Port Stanley Ontario, Canada, on the 13th day of June, 1871, and died at Oklahoma City on June 28, 1941. He was the son of Sarah Shearer Ferguson and Dugald Ferguson. A brother, Robert D. Ferguson still lives on the family homestead, and a sister, Mrs. Ethel F. Campbell, relict of Dr. Spurgeon Campbell, are the only survivors of his immediate family.

Dr. Ferguson had two sons, E. Gordon Ferguson, son of Ella Robinson Ferguson (deceased). He is associated with the firm of Ferguson and Walls. Another son, John Haven Ferguson, the son of Marie Haven Ferguson (deceased) is an attorney and now living in New York City.

Dr. Ferguson was graduated from St. Thomas Collegiate Institute in 1890; the St. Thomas Normal School in 1891, and Wayne University School of Medicine in 1895. He did post-graduate work in the Ear, Eye, Nose & Throat Infirmary in New York City, 1900-01; University of Vienna in 1910.

He came to the United States in 1892, and was naturalized in 1901. He practiced medicine in Cameron, Texas until 1904, when he came to Oklahoma City and limited his practice to his specialty.

In 1905-06 he was instructor in minor surgery at the Epworth University College of Medicine. When the Epworth College of Medicine was incorporated, Dr. Ferguson was appointed Professor of Ophthalmology and Otolaryngology from 1907-10. In 1910-11 the University of Oklahoma School of Medicine was absorbed with the Epworth College of Medicine and he was appointed Professor of Ear, Eye, Nose and Throat. In September 1911, at the first meeting of the faculty, Dr. Ferguson was chosen as secretary of the faculty. In 1924 he was elected Professor of Ophthalmology and served as head of that department. On October 10, 1935, he resigned as Secretary of the faculty. On September 1, 1938, he was made Emeritus Professor of Ophthalmology.

He was one of the founders of the Oklahoma City Academy of Medicine, and President of that body in 1913, and again in 1927. He was on the staff of St. Anthony's, Wesley and Oklahoma City General Hospitals, as a consultant in Ophthalmology.

He was a Fellow of the American College of Surgery, serving on the committee on credentials, the International College of Surgeons, a member of the American College of Ophthalmology, and certified by the American Board of Ophthalmology and Otolaryngology.

He was past president of the State Medical Society, was on the County committee to determine those necessary for home defense.

He was a member of the Oklahoma Club, Oklahoma City Golf & Country Club, Lotus Club, Oklahoma County and State Medical, and the American Medical Association. He was a member of the Nu Sigma Nu College fraternity, belonged to the Presbyterian Church, and was a Mason (32nd degree).

Dr. Ferguson lived the allotted three score years and ten. Each year had not carved away a bit of the fullness of his mental and physical vigor, leaving only the shell of his former self, as Holmes has said. He was always interested in manly diversions, interspersing his continued interest in medicine, with hunting and fishing. He had just returned from a short fishing trip on the White River, and was in Alaska on a fishing trip last summer. He made at least one hunting trip a year, and sometimes more.

He loved people, had a host of devoted friends. He was a wise physician, a good citizen, a devoted husband, a fond father, and true friend. How fortunate it was that after a well rounded life, when the shadows of evening were lengthening, he was taken so suddenly, when he would have had such a restive old age.

The rapid and fatal executioner (coronary occlusion) saved him from that, and enabled his family and friends to remember him as he always was, without any incursion on his disposition or activities, which Time invariably registers on every one of our organs.

"To lose a friend is the greatest of all evils—

But endeavor rather to rejoice that you possessed him,

Than to mourn his loss."

Epistulae ad Lucilium. (Seneca).

A Resolution of the Oklahoma County Medical Association—July 1, 1941.

Whereas:—

The Almighty, in his infinite wisdom, has called from our midst our beloved friend and co-worker, Dr. Edmund Sheppard Ferguson, who, although three-score years and ten, was still full of vigor and vitally interested in his work, and who departed this life in the midst of great activity, and lived a full life to the very end.

Therefore Be It Resolved:—

The the medical profession has lost one of its best beloved and most valuable members.

His superior ability, his fine personality and spirit of friendliness, his great interest and concern for his patients and his friends made his life most lovable and influential, and an inspiration to others to do better work, and to uphold the ideals of the medical profession.

And Be It Further Resolved:—

That while we bow in sorrow to the will of the Omniscient, we are deeply appreciative of this wonderful man, physician, scientist, teacher and friend, and his far-reaching influence which will continue to inspire us to carry on our duties to Humanity.

We bid Goodnight to his labors, and Good Morning to his honor and glory.

And Be It Further Resolved:—

That we extend our deepest sympathy to the members of his family in this, their greatest bereavement, and that these resolutions be spread upon the minutes of the Society, and that a copy be sent to the members of his family.

Dr. Charles D. Johnson (1892-1941)

Tulsa county and the state lost a distinguished member of its medical world when Dr. Charles D. Johnson, Tulsa, died June 22 after a long illness.

Born in Downs, Kan., Doctor Johnson was graduated from Northwestern State Teachers' college, Alva, in 1904, from the University of Oklahoma in 1907, and from the St. Louis university medical school in 1914. He served on the faculty of that medical school for several years.

In 1910, he came to Tulsa, where he became active in the Tulsa County Medical society, serving on legislative and other committees. During his years of practice, he built for himself a reputation as the greatest medical authority on the treatment of appendicitis in Oklahoma.

His survivors are his wife, two daughters, Maxine Lee and Phyllis Johnson; his mother, Mrs. L. J. Johnson, and a brother, C. B. Johnson, all of Tulsa; and four sisters, including Cleda Frank Russell, Tulsa.

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Karo syrup	2 tbs.

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(cooked ten minutes until thick)	
Whole milk	12 ozs.
Water, boiled	6 ozs.
25% Lactic acid	2 tsp.
Karo syrup	2 tbs.
2% Lactic-acid milk	18 ozs.
Karo syrup	2 tbs.

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NEWS FROM THE COUNTY SOCIETIES

When members of the Woodward County Medical society and their wives met June 12 at the Western Oklahoma hospital, Supply, they were greeted with a dinner made up of foods grown or manufactured at the hospital.

Following the dinner, Dr. C. R. Rountree, guest speaker from Oklahoma City, talked to the society on new methods of treating fractures. He illustrated his talk with pictures.

Meanwhile, wives of the members were taken on a tour of the occupational therapy department and other hospital buildings.

About 25 doctors and their wives were present at the meeting, which was presided over by Dr. H. L. Johnson. After the meeting, the society adjourned until September.

Eight members of the Muskogee county society joined members of the Sebastian county, Arkansas, society in Fort Smith May 30.

The Muskogee county society members who attended this meeting in Arkansas included Dr. Charles Ed White, Dr. Finis W. Ewing, Dr. Shade D. Neely, Dr. F. G. Dorward, Dr. H. A. Scott, Dr. E. H. Coachman, Dr. H. T. Ballantine and Dr. J. T. McInnis.

July 3, the Muskogee society will hold its annual round-up picnic on the ranch of Dr. Charles Ed White.

A round table discussion of "The Diagnosis and Treatment of Appendicitis" was held at the meeting of the Creek county society, June 10 in Sapulpa.

About ten members were present at the meeting, which closed the series of meetings for the society until next fall. The meetings will begin again, October 14 in Bristow.

Dr. T. D. Rowland and Dr. Paul Gallaher, both of Shawnee, were the speakers at the meeting of the Pottawatomie county society, June 21 in Shawnee.

The subject of the program that evening was "The Local Use of Azo-Sulfonamide and Its Derivatives."

Preceding the program, the 20 members present were entertained at a chicken dinner. Members will meet again July 19 in Shawnee, with Dr. J. E. Hughes in charge of the program.

Dr. Ellis Moore and Dr. Joseph W. Kelso, both of Oklahoma City, were guest speakers at a meeting of the Blaine county society, June 20 in Watonga. About ten members were present.

Doctor Moore read a paper on "A New Operation for Hemorrhoids," and Doctor Kelso gave a talk, illustrated by lantern slides, on "The Vaginal Historectomy."

Following dinner and the program, the society adjourned until September 3, when members will meet again in Watonga.

The Jefferson county society also held its last meeting of the season, June 9 at Waurika. About seven members were present, and topics of a general nature were discussed. The society will resume its meetings in October.

Members of the Logan county medical society also heard Dr. Ellis Moore's paper on "A New Operation for Hemorrhoids," when the society met June 16 at the Cimarron Valley hospital, Guthrie.

Members also heard a talk, "Plastic Surgery Prob-

lems," given by Dr. George H. Kimball, Oklahoma City.

Following the program and a short business meeting, the society adjourned until September.

Dr. Halsell Fite and Dr. Pat Fite, both of Muskogee, were the guest speakers, June 20, at the Pittsburg county society meeting at the Albert Pike hospital, McAlester.

Dr. Halsell Fite illustrated his talk on "My Experiences in Trans-Urethral Prostatic Resection" with x-rays. Dr. Pat Fite spoke on "The Nailing of Intracapsular Fractures of the Neck of the Femur."

Before adjourning for the summer, the society voted to make a contribution to the National Physicians committee. Members will resume their meetings in September.

Dr. Roy L. Smith Is Re-Elected Chairman of Secretaries Group

Dr. Roy L. Smith, Tulsa, was re-elected to serve as Chairman of the Annual Secretaries' Conference of the Oklahoma State Medical Association, at the second meeting of the conference, May 21 in the Skirvin hotel, Oklahoma City. Twenty-one secretaries attended the meeting, which was held during the Association's Annual Session.

The election of officers followed luncheon. Other officers elected were Dr. Rush L. Wright, Vice-President, Poteau, and Dr. Shade D. Neely, Secretary-Treasurer, Muskogee.

A Constitution and By-Laws governing the conference were then adopted. Copies of the final draft of these will be mailed to county secretaries in the near future.

Following the business meeting, Dr. J. D. Osborn, Secretary-Treasurer of the Oklahoma State Board of Medical Examiners, Frederick, discussed the Annual Registration Act.

Before adjournment, the group decided to hold their Third Annual Secretaries' Conference during the Oklahoma City Clinical conference.

Doctors Will Receive Railway Quiz Book

Of interest to members of the Association is the announcement that the Atchison, Topeka and Santa Fe Railway System will distribute to physicians over the state a new booklet, "Quiz," published by the Association of American Railroads.

As stated in the Foreword of the booklet, it is "dedicated to the curiosity of the American people."

Facts about the railway industry, its organization, history, size capitalizations and many other of its phases, are given in the booklet in the form of questions and answers.

It will be a helpful addition to every doctor's collection of books.

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¹ Cooke, R. A., and Stull, A.: *J. Allergy* 4: 87, 1933.

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BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

SYNOPSIS OF MATERIA MEDICA, TOXICOLOGY AND PHARMACOLOGY. By Forrest R. Lavisson, Ph. D., pp. 633, The C. V. Mosby Company, 1940. Price—\$5.00.

A concise review of Applied Pharmacology, Therapeutics and Toxicology which may be of value for the physician or nurse requiring a ready reference.

The material is treated in a stilted style with no attempt at the use of newer methods of classification. The classification presented is merely a restatement of those available in most of the older classics in Pharmacology. References are presented which are inaccessible since the reader wishes not a large bibliography, but a quick method of being able to refer to a particular subject.—B.E.A.

SHOCK: BLOOD STUDIES AS A GUIDE TO THERAPY. By John Scudder, M.D., Med. Sc. D., F.A.C.S. 55 Illustrations, Five Plates three of which are in color. 323 Pages. Price \$5.50. J. B. Lippincott Co., Philadelphia, 1940.

The subject is presented in four parts; PART ONE is "Historical and Experimental." The historical sketch covers etiology and theories, including: Vasoconstriction, Capillary Congestion, Toxemia, Loss of Circulating Fluid, Neurogenic, and Adrenal Exhaustion. Blood changes in shock are reviewed, especially stressing the changes in potassium concentrations and its toxic effect on cardiac and smooth muscle. The results of experimental shock are presented; these results were obtained from 28 animals in which shock was produced by various means. While the data usually shows an increase in blood potassium during shock, the degree of increase is not an indication of survival time. Methods of preserving blood for transfusions are well presented especially stressing the toxic effect of potassium which may result when the base diffuses from the red cells. Methods for retarding such diffusion of potassium are discussed.

PART TWO deals with "Varieties of Shock—Their Analysis and Treatment." This section opens with "Advances in Treatment of Shock," which the author apparently considers to be synonymous with the administration of "Cortical Extract and Salt." This treatment was administered to patients suffering from shock which had been caused by various agencies. Complete case histories are presented covering the laboratory findings and treatment in detail. In the analysis of 27 such cases the author includes the following statement: "This combination has proved beneficial, particularly, in those cases which were not responding to the usual forms of therapy." Part two closes with a summary of the work and is expressed in 21 points. The following two seem most significant: "Experimental evidence, based on 28 cats, reveals alterations in both hemoconcentration and blood potassium in shock; this inspissation of the blood usually precedes an increase in potassium," and "To state that shock is due to potassium poisoning alone is fallacious. That alterations in potassium in both the blood and body fluids serve as a measure or profound cellular changes is probably more correct."

PART THREE "Historical Development and Bibliography." In this section the author again turns to history and lists in chronological order the "concepts and treatment of shock," from 1492 to the present. The same is done under the "physiologic and toxicologic effects of potassium" and again on "some of the func-

tion of the adrenal glands." This furnishes a lengthy bibliography of 533 references.

PART FOUR, "Laboratory Manual," is limited to eight pages covering the technique and equipment used in determining hematocrit, specific gravity of blood, plasma and serum. It is surprising that the determination of potassium has not been mentioned.

Since much of the volume is devoted to history it is unfortunate the author offers it without any critical analysis or interpretation. Had the author chosen to discuss the mechanism of shock production it would have been necessary for him to include several outstanding papers which he has omitted from the bibliography. The book offers a splendid evaluation of the possible role of potassium in shock.—E.C.M.

Hygeia Advises On "Eating Ice"

"Many persons experience bowel cramps and gas in the abdomen when they eat or suck ice," Hygeia, The Health Magazine says in answer to an inquiry as to whether eating or sucking ice is injurious to health.

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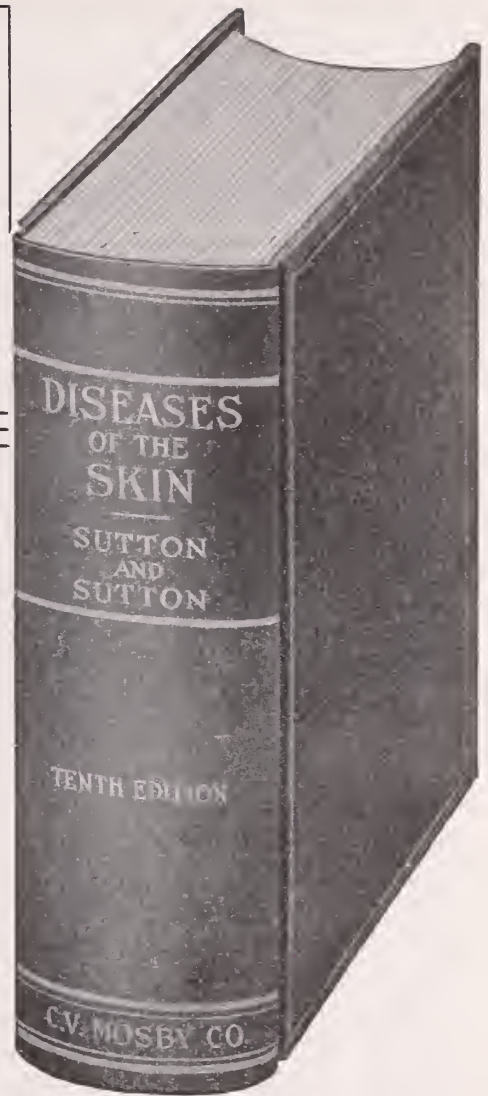
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REVIEWS and CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments From
LeRoy Long Clinic
714 Medical Arts Building, Oklahoma City

"Total Thyroidectomy in the Treatment of Diabetes Insipidus." Harry Blotner, M.D. and Elliott C. Cutler, M.D., Boston. The Journal of the American Medical Association, June 21, 1941, Page 2739, Vol. 116, No. 25.

Considerable advance has been made in recent years in the physiology of the thyroid gland in relation to the other organs of internal and of external secretion. However, during the past 45 years, clinicians have reported improved elimination of water in certain forms of nephritis by the administration of desiccated thyroid and more recently of thyroxine, alone or combined with solution of parathyroid. No explanation for the effects noted has been forthcoming beyond the possibility that these drugs increase the mobilization and excretion of calcium.

From a review of the literature, it appears that there is a relation between the thyroid and pituitary glands and that the thyroid gland is a factor in maintaining water balance and possibly plays a role in the regulation of the intake and output of fluid in patients with diabetes insipidus. It appeared to the authors that it might be of value to apply this knowledge clinically in the treatment of diabetes insipidus. They, consequently, performed total thyroidectomy in the year 1935 on three patients with diabetes insipidus. This article reports the results obtained on these patients after a five years interval.

The general plan of study included various observations made in each case before and after total thyroidectomy. The fluid intake and urinary output were measured daily for many months and periodically after the operations. The specific gravity of the urine was measured at intervals during the day. The basal metabolic rate was determined on 38, 40 and 64 occasions in the respective cases. The plasma or serum was analyzed on many occasions for sugar, cholesterol, nonprotein nitrogen, protein, albumin, globulin, chlorides, calcium and phosphorus. The hemoglobin, red blood cell counts and hematocrits were determined.

The authors summarize their results as follows:

Total thyroidectomy was done on three patients with diabetes insipidus who have been observed for five years since operation. The patients studied had acquired the disease many years previous to their investigations, and consisted of one elderly woman whose diabetes insipidus was idiopathic and two young men whose disease was associated with postencephalitic Parkinson's disease.

Total thyroidectomy relieved the diabetes insipidus in the two cases of postencephalitic origin and also improved the Parkinson's disease. Total thyroidectomy had no effect on the diabetes insipidus of the first patient, whose disease was idiopathic. However, they believe that this patient has accessory thyroid tissue because of her normal basal metabolism, the lack of symptoms and signs of myxedema and because of the levels of cholesterol and iodine in the blood.

The administration of thyroid, when not recently preceded by dinitrophenol, re-established the polyuria and polydipsia, but these were not as severe or as persistent as they had been before total thyroidectomy. The diuretic effect of thyroid appears somewhat specific, in the nature of a diuretic principle, and is not due particularly

to its ability to raise the basal metabolism. This was suggested by the occurrence of an increased intake and output of fluid while the metabolism was still low after thyroid medication, and by the comparative response of the water exchange to dinitrophenol and to thyroid.

Their studies of the thyroid gland in two cases indicate some hyperactivity of the gland. It is suggested that the thyroid gland plays a part in the clinical aspects of diabetes insipidus.

The evidence in their studies justifies the application of total thyroidectomy in cases of diabetes insipidus associated with postencephalitic Parkinson's disease.

LeRoy D. Long.

"The Local Use of Sulfanilamide." Lawrence W. Long, M.D., and J. Gordon Dees, M.D., Jackson, Miss. Surgery, June 1941, Vol. 9, No. 6, Page 878.

The subject of the application of sulfanilamide crystals to wounds of the body made by trauma or by the surgeon is a subject which is growing in importance, particularly with the vast number of casualties that are appearing in the present war as well as the increasing number of auto accidents.

The authors use sulfanilamide because it is more soluble than sulfapyridine or sulfathiazole. Its concentration in the blood shows that it is picked up more rapidly than the other two of this group.

They divide proper usage of sulfanilamide locally into office use and hospital use.

The types of cases treated in the office are those of local infections, small lacerations, boils and abscesses, and the lesser types of injuries in which powder is placed in the wound and seved up without drainage. If the infection and injury seem to be serious enough, sulfanilamide is given by mouth in addition to the local use. When the ointment is indicated in office treatments, they use equal parts of sulfanilamide crystals and lanolin thoroughly mixed, preferring the anhydrous types of sulfanilamide ointment because it seems to be more readily absorbable than that placed in petrolatum.

Their hospital treatment consists of: (1) Crushing and lacerated injuries, in which the wound is thoroughly debrided, after scrubbing and preparation of the area, and dusted with sulfanilamide powder, being closed without drainage.

(2) Compound fractures, in which the patient is treated for shock, after which there is thorough preparation of the injured part with soap and quantities of sterile water, debridement, apposition of the fractured extremity, and, if the fractures cannot be aligned and held properly in place, the placing of vitallium metal screws and plates into the bone to hold the fractures in situ. They place 20 Gm. of sulfanilamide powder into the fracture site both beneath and on top of the periosteum and the subcutaneous area. Proportionately smaller amounts are used for children. The wound is closed without drainage and a plaster of Paris splint applied to immobilize the part. Some of these patients have showed "sulfanilamide fever," which has subsided when the drug was discontinued by mouth.

(3) Carbuncles, the treatment of which has been satisfactory in their hands by the use of intravenous anesthesia, thorough incision with the radioknife, removal of the infected tissue by electrocoagulation, and packing with sulfanilamide powder. They have found that this procedure is usually followed by freedom from pain and sepsis.

(4) Local abscesses, treatment of which with incis-

ion and drainage and daily applications of sulfanilamide powder dusted into the cavity has shortened the duration of the infection and apparently aided materially in the cure.

(5) Appendical and pelvic abscesses, which have been treated successfully without drainage by incising and irrigating the abscessed cavity, placing 20 to 30 Gm. of sulfanilamide powder into the abscess, and closing the abdomen without drainage. The rate of absorption from such walled-off cavities is much slower than in fresh denuded areas or in the peritoneum itself.

(6) Peritonitis, which locally following acute appendicitis has been treated successfully by dusting the sulfanilamide powder into the peritoneal cavity, and which generally has been treated with sulfanilamide in the peritoneal cavity with drainage with marked success. These authors have treated 51 such cases with one death. They make the point that the absorbability of the drug is proportional to the peritoneal reaction that is present.

(7) Prophylactic use in abdominal and pelvic surgery, in which all cases of chronic salpingitis, hydrosalpinx, supravaginal hysterectomy, and tubo-ovarian abscess with removal are treated by the use of sulfanilamide powder dusted into the area of the pelvis. They have noticed that closure of the stump of the cervix has not resulted in any complications where this procedure has been followed. They also feel that the use of the drug locally is advantageous as a prophylactic measure following any gastro-intestinal surgery with soiling of the peritoneum.

They have found that the maximum concentration in their cases has been 19.5 per cent. The minimum concentration has been 1.9 per cent. The effectiveness of the drug is lost if and when concentration falls below 1 mg. per cent. In their opinion the ideal concentration desired is from 6 to 10 mg. per cent.

They conclude that sufficient concentration in the blood can be obtained in conditions requiring the use of the drug locally. Autoclaving destroys the effectiveness of the drug. Its rate of absorption is dependent upon the vascularity of the area in which it is placed. They have noted no complications that might be due to the use of the drug.

LeRoy D. Long.

"The Treatment of Abnormal Uterine Bleeding With Androgens." Udall J. Salmon, M.D., Samuel H. Geist, M.D., Joseph A. Gaines, M.D., and Robert I. Walter, M.D., New York, N. Y. *American Journal of Obstetrics and Gynecology*, June 1941, Vol. 41, No. 6, Page 991.

This is a very comprehensive article upon the subject of the treatment of abnormal uterine bleeding with androgens. The authors report their experience, extending over a three year period, with 61 cases of abnormal uterine bleeding treated with testosterone propionate. They give their recommendations as to the optimal dosage, safeguards to be employed in order to avoid the masculinization phenomena, some theoretical concepts in regard to the cause of functional bleeding and the physiological role of androgens in the human female and, lastly, a preliminary report on the value of newer testosterone products and androgen implantation.

"It seems to us to be both illogical and unnecessary to seek, in animal experiments, a rationale for the use of androgens in the treatment of abnormal uterine bleeding, when a physiological basis for their use can be found in the biologic effect which testosterone evokes in human females. Thus it has been shown that testosterone propionate, if given in sufficient amounts to woman, inhibits the secretion of gonadotropic hormone by the hypophysis, suppresses ovulation and menstruation and abolishes temporarily the normal proliferative and secretory phenomena of the endometrium, reducing the latter to a state of involution."

In their series of 61 patients there were 45 cases of functional bleeding, 15 cases of menometrorrhagia associated with uterine fibroids, and one case of adenomyosis of the uterus. Good primary therapeutic results

were reported obtained in 97.7 per cent of the cases of functional bleeding. Apparent cures with follow-up varying from 3 to 32 months were obtained in 66.6 per cent, moderate improvement in 26.6 per cent and failure in 6.8 per cent of the cases.

The results in patients with uterine fibroids were not satisfactory. The primary results were good in 87 per cent but symptoms recurred after discontinuation of treatment in 60 per cent of the cases.

In the one patient with menorrhagia and adenomyosis of the uterus, the menorrhagia was controlled under treatment, but there was a complete recurrence of the excessive bleeding after discontinuation of testosterone propionate.

It is therefore the recommendation of the authors that testosterone propionate be used in the treatment of menorrhagia or menometrorrhagia of "functional" origin, or in association with small intramural fibroids. The results from such treatment are likely to be unsatisfactory if the abnormal bleeding is associated with submucous fibroid tumors.

This recommendation for the use of testosterone propionate in such instances of bleeding is restricted with the caution that the patient must be carefully followed with vaginal smears, and in this series they also had frequent endometrial biopsies. The danger of androgenic therapy lies in the possible masculinizing phenomena which may occur. It is the author's experience that involutional changes in the vaginal mucosa, as demonstrated by vaginal smears, and atrophic changes in the endometrium, as found in endometrial biopsies, will always precede masculinization phenomena. It is therefore important that at least vaginal smears be carefully followed and at the first sign of decided involutional changes, the treatment be discontinued or reduced prior to the onset of any masculinization symptoms.

In their series of 61 patients, 13 exhibited side-effects. "A number developed masculinization phenomena, viz., slight hirsuties of the face and extremities (five cases), deepening of the voice (six cases), and enlargement of the clitoris (three cases). In five instances, slight acne appeared on the chest, back, and face. A few patients developed all three symptoms, i.e., hoarseness, hirsuties and acne. With but one exception, none of these complications occurred in patients receiving less than 500 mg. The exception was a patient who developed slight acne and hirsuties after 315 mg."

It is consequently the author's opinion that smaller dosages carry very little risk of masculinization and that smaller doses combined with repeated vaginal smears makes the possibility of masculinization symptoms extremely small.

In accordance with the above ideas, the authors make suggestion of optimal dose of 300 mg. per month in patients with marked bleeding, given in single intramuscular injections of 25 mg. three times weekly. "Vaginal smears should be taken twice weekly and, at the first sign of regressive changes, therapy should be discontinued. If there is no, or only slight, symptomatic improvement during the next menstrual period, a similar course of testosterone should be repeated the following month. If the first menstrual period is moderately improved, 150 mg. in divided doses may be given the following month. If the bleeding is reduced to approximately normal after the first course, a second course should be given the following month, reducing the monthly dose to 100 mg."

For patients with moderate degrees of menorrhagia or menometrorrhagia, 150 to 200 mg., in divided doses, for the first month, is usually adequate. It is advisable to supplement the first month's treatment with a second course the following month, using approximately half of the first monthly dose.

Patients that have shown a tendency to recurrence after an interval of normal menses for several months have been satisfactorily controlled with small doses, e.g., 10 mg., two or three times weekly, or 25 mg. weekly, given for four to six weeks."

The implantation of testosterone propionate was attempted in 22 patients but it appeared to be of little, if any, practical value as a therapeutic procedure.

After some discussion as to the physiological role of androgens in the human female, the following hypothesis is presented: "The androgens and gynecogens are thus pictured as being normally in a state of dynamic balance. If the equilibrium is upset in favor of the gynecogens, the resulting imbalance would give rise to dysmenorrhea, menorrhagia, or premenstrual tension; if in favor of the androgens, to oligomenorrhea, amenorrhea, and hirsuties."

Throughout the entire article, the authors frequently stress the importance of studying the cytological changes in the vaginal smears as a method of regulating the dosage.

COMMENT: This is an excellent piece of work covering a reasonably long period of time, and done by men of exceptional ability and sound judgment.

While there still remains considerable aversion to the use of androgens in the human female, and while there is still fear of undesirable masculinization effects, it would appear from such excellent studies as this that the androgens are of undoubted value in the treatment of so-called functional uterine bleeding. It is studies such as this one which will discover means of limiting the dosage in a particular patient so that the desirable effect may be obtained and the undesirable side-effects avoided.

Wendell Long.

"The Clinical Study of Estrogenic Therapy With Pellet Implantation." Daniel R. Mishell, M.D., Newark, N. J. *American Journal of Obstetrics and Gynecology*, June 1941, Vol. 41, No. 6, Page 1009.

This is a report on the effects of implantation of a single pellet of crystalline estrogens varying in weight from 45 to 65 mg., but averaging about 50 mg. in a series of 28 patients. The pellets were inserted in the subcutaneous tissue just above Poupart's ligament.

Of ten menopause castration cases, eight were relieved of all symptoms one week to ten days following implantation. There was one failure in a post-radiation case. The average dose was about 50 mg. and the average symptom-free period was 120 days.

Twelve patients with spontaneous menopause were treated with average dose 50 mg. The duration of symptom-free period in those patients observed for a sufficient length of time averaged five months.

Two cases of secondary amenorrhea had biopsies which showed evidence of a moderate proliferation of the endometrium as well as an increased amount of cornified epithelial cells in vaginal smears. However, implantation had no effect whatsoever upon the menstrual cycle.

Likewise, in three cases of primary amenorrhea there was no return of vaginal bleeding but the effect upon breast development in these cases was rather striking.

It was felt by the authors that this means of estrogen therapy by implanting 50 mg. pellets in the subcutaneous tissue was a safe and effective mode of therapy in cases of menopause.

It was considered more economical, and far more satisfactory to the patient than frequent intramuscular injections.

Wendell Long.

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M. D.
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"Some Notes On the Treatment of Carcinoma of the Bronchus." F. C. Ormerod. *The Journal of Laryngology and Otology*, January, 1941.

In 1933 this author gave a preliminary report of 27 cases. Aetiological factors, symptoms and clinical signs were discussed. Four years afterward, a report of 100

cases was published. The application of radon was discussed. The dividing line between the carcinomata and the so-called adenomata is a field for much further investigation. In this present report there are additional cases reported which have been treated with radon. By 1939 the author had treated 100 cases in this manner. Now he has an additional 33 cases which have been so treated for a period of just under three years. The report of 1937 showed that by the radon treatment the expectation of life had been advanced from 3.5 months to 7.8 months. The additional 33 cases has reduced the expectation to 5.6 months. It would appear from the above that the results of the radon treatment has changed to the worse. Actually, this is not true because the cases were seen at an advanced stage. Many of the 33 were treated with the idea of palliation only and aimed merely at opening up the bronchus. During this period 16 cases were refused treatment, the cause being that they were so far advanced that the chance of any improvement was nil. The author says: "In treating such a disease as cancer of the bronchus, the increase of the average survival rate of cases of all types is perhaps not so immediately important as the very satisfactory results in individual cases." About the only indication of whether the patient is likely to respond to the radon treatment or not is the fact that has been learned by experience that the patient of over 60 years of age does not respond well. If there is a reasonable prospect of successful surgical removal, of course it is inappropriate to apply radon. About one-third of the patients referred to the author were considered not suitable for treatment on account of the advanced stage of the disease and not because of the suitability of possible successful surgical removal. The technique of the method of treatment is described, cases are reported in detail, x-rays are shown and pathological specimens demonstrated. Altogether, it is a concise handling of a difficult and so many times an unsatisfactory subject.

"Discussion of the Psychological Aspects of Deafness." *Proceedings of the Royal Society of Medicine*, 1941, Volume 34, April, No. 6, Page 309-319.

H. FREY says that the literature contains very little about the psychological aspect of deafness. The deaf are not a uniform group, and not every hearing loss means a deaf person. A deaf person is only that one with a hearing defect who feels this defect to be an impediment in private or occupational activity or in general enjoyment of life. The deaf-mutes form a separate community among the hearing people. Their isolation from the hearing world does not prevent them from entering successfully upon all the ordinary activities of life; in fact, they almost live the life of normal persons. Yet, they are often unable to adapt themselves to ordinary social life, and conflicts arise in which they show awkwardness of temper, petulance, aggressiveness and violence.

It is probable, however, that the mental anomalies seen in some of the deaf-mutes are due to factors other than deafness. On the other hand, most of the deaf-mutes are, from the outset, not quite normal people. The congenitally deaf are degenerate individuals, showing abnormalities of their central nervous system. Also in cases of deafness due to early meningitic affection, it may be assumed that the central nervous system has not survived the strain of the disease without lasting inferiority of function.

The deafened, as a rule, overestimate the extent of their deafness because of reasons psychological and physiological. The unilaterally deafened person believes that he is completely deaf in the impaired ear, because when a sound from one source reaches him, the weaker ear gets a weaker hearing impression. The sound is localized by the better ear, and the patient has the subjective feeling that only one ear is functioning.

Inefficient hearing occurs also among normal people, and more frequently among the deafened. The imperfections of the speakers further contribute to the fact

that the deafened overestimate the extent of their deafness. Moreover, since they try to hide their defects, they do not ask for repetitions of sentences or words not sufficiently well understood; they are also disinclined to use hearing aids and to study lip reading. By this, the deafened feels himself more and more excluded from the community of normal people, and he becomes an "inferior" person. A neurotic state then develops, produced by psychical trauma.

Many of the most depressed cases belong to the group of otosclerosis. The patients represent a special type of a highly nervous character and highly unstable vasometer conditions. It is quite possible that their preparedness for mental depression is to some extent due to their whole pathological condition and not just a normal reaction to their defects. It is peculiar that the general public never has as much pity for the deafened as for the blind. Indeed, the deafened is usually a comic figure in the literature and at the stage, because his defect is not generally considered as one which involves the "personality."

Experience proves, however, that quite a number of the deafened are able to regain their mental and moral equilibrium, even after years of mental sufferings.

A. B. STOKES: Among the deaf, anxiety occurs which may be of such degree that, judged by social conduct, it is abnormal. It will be found in that type of person who from birth has been timid or apprehensive. If the anxiety is associated with much visceral disturbance, a florid hypochondriasis results.

A depressive state may arise in a person who in earlier life has shown that type of response to situational factors involving stress. In his depression, he may show retardation of thought and action, and may be filled with gloom about his present and future. A schizoid response to deafness may be obtained in a person who has always seemed retiring. Similarly, according to the individual, hysterical, obsessional, or paranoid responses may develop. Yet, the number of deaf people at the psychiatric clinics is not larger than would be accounted for by their distribution among the general population. It is those of susceptible personality make-up who break down under the strain of deafness.

Hardness of hearing and the concomitant social situation represents a great burden, but particularly so to those who already before their deafness lacked strength in themselves. A specific response of the deaf is seen in those individuals in whom a paranoid reaction develops; such persons may believe that the conversations of others are about themselves.

The occurrence of deafness in children presents special problems. Trends of conduct are impeded in their social organization, while at the same time social stress is increased. Behavior problems, therefore, arise, which take their form according to the personality of the child. The lessening of the burden of deafness by the use of hearing aids, by lip reading, and by social adjustments will allow compensations to develop within the personality.

"Angiomatosis Retinae; With a Report of Four Cases in One Family Involving Six Eyes." L. Staz, Johannesburg, South Africa. The British Journal of Ophthalmology, April 1941, Vol. 25, No. 4, Page 167-179.

FUCHS was the first who described the condition of angiomatosis retinae in 1882. Later, WOOD, COLLINS, BEDELL, and others reported more cases. The affection is usually known as Coats' disease or Hippel's disease. LINDAU showed that it can be associated with (1) the presence of angioblastic cysts in the central nervous system, notably in the cerebellum, (2) the presence of cysts in the kidney and pancreas, and (3) the development of hypernephromata and tumors of the suprarenal glands.

The author observed four cases in a family, the mother, her daughter and two sons being affected. The mother's left eye was blind, with no perception of light. In the right eye there was massive exudate of the

retina; the veins were enormously distended, and one disappeared into an angioma. Some vessels had beaded appearance, and beyond the angioma, the capillaries were dilated.

The daughter had an almost blind divergent right eye. There was a large retinal detachment the surface of which showed two areas of capillary nevi, and many newly-formed blood vessels. In the right eye of one son there was a pear-shaped retinal angioma. The other son also had an angioma in his left eye.

Such cases are treated by the suture of radon seeds to the sclera over the site of the tumor, but after such a treatment there is usually a danger of delayed macular degeneration. WE'VE recommended surface coagulation by means of the diathermy. This is almost the same as the treatment of retinal detachment.

"The Correction of the Errors of Refraction of the Eye by Means of Contact Lenses." Istvan Györfy, Budapest; Orvosi Hetilap, Budapest. April 19, 1941, Vol. 85, No. 16, Page 219-21.

The contact lens is a small shell-like eyeglass to be worn under the eyelids and immediately on the eyeball. It has many advantages, and is almost an ideal eyeglass. The idea of the contact lens is old. Already the physicist, HERSCHEL, had recommended it for the correction of the abnormal formation of the cornea, but in his time no one ever thought it possible that the eyeball could tolerate foreign bodies on its surface.

In the nineties of the last century there were again several investigators interested in contact lenses. FICK, an ophthalmologist of Zurich, MÜLLER, a medical student, and another MÜLLER, the manufacturer of artificial eyes, made such lenses, but their lenses were spherical and were not well tolerated by the rather ellipsoidal surface of the eyeball. In 1920, the ZEISS company had already an entire set of contact lenses so that individual selection became possible. Yet, they were still spherical. Soon, DALLOS began to take moulds of the curvature of the eyeball, and the lenses prepared according to the individual mould were not only better tolerated but also better fitted and well adhering to the eyeball.

The contact lens eliminates the function of the normal cornea; it acts like an artificial cornea if the narrow space between the cornea and the glass is filled with a fluid the index of refraction of which is the same as the index of refraction of the cornea and the aqueous fluid. Since the optical effect of the contact glass depends on the curvature of its corneal portion, if this portion is adequately prepared, any kind of refraction anomaly can be easily corrected by means of the contact lenses. It is now possible to select a proper contact lens for any cornea so that the lens will correct not only the error of refraction but also ugly scars or abnormal protrusions of the cornea.

The contact lens is in contact only with the scleral portions of the eyeball; the cornea is not in touch with the glass. The lens follows the normal movements of the eyeball, and is not visible when worn. It does not change either the size of the eye, or its normal expression. Among its advantages, one mentions that it has not any of the untoward optical effects of a regular eyeglass, and the field of vision is just the same as for a normal eye. It never weighs more than 3 grammes, while some of the eye-glasses for higher degrees of myopia may weigh 40 or 50 grammes. The contact lens is well hidden behind the eyelid, and will not fall out of the eye and break. It does not become foggy in any weather.

Its disadvantage is that it is more expensive than a regular eyeglass, and does not last as long. One has to become used to it by wearing it only for a few hours a day, and it may take months until one is able to tolerate it in the eye for a full day. Yet, the therapeutic indications are such that nothing can replace contact lenses in certain errors of refraction. Irregular astigmatism and keratoconus are absolute indications for con-

tact lenses. Even in cases of high grade astigmatism or myopia the contact lens gives much better vision than the ordinary eyeglass. It is also indicated in unilateral aphakia, where it gives much better chances for the fusion of the aniseikonic retinal images than could be expected from an ordinary eyeglass.

Until now, the contact lenses were manufactured of glass. The author recently discovered that artificial resins can be used for making contact lenses. He now uses an ester of the methacrylic acid for manufacturing lenses that are unbreakable. Their only disadvantage is that they are easily scratched during cleansing. He also mixed with the artificial resin the metal oxid of Neodym, and obtained colored lenses which will absorb the ultra-violet rays to which tourists or athletes are exposed at high mountains and during winter sports. All these show the possibility of a wide application of contact lenses.

"The Classical Symptoms of Vitamin A Deficiency and the Vitamin A Deficiency as a Systemic Disease."
A. Pillat, Graz. Die Arztliche Praxis, Wien, April 1, 1941, Vol. 15, Heft 4, Page 61-65.

The deficiency in vitamin A produces its most prominent symptoms in the eye. It has not been long that we have known the three entirely different clinical pictures of night blindness, xerosis of the conjunctiva and keratomalacia, and that we recognized their common cause as deficiency in vitamin A. These are the classical signs of lack of vitamin A, and they should be considered three stages of the same disease. They also serve for the measurement of the severity and the duration of vitamin deficiency.

The earliest sign of deficiency is the night blindness or hemeralopia. The patient does not see well at twilight or at night, cannot find his way easily after sunset at a strange place, loses his direction even in his usual surroundings, falls easily over unseen objects, and needs a long time for adaptation of his eyes to darkness. Only the more severe degrees of night blindness are known to the patient himself; the milder types of hemeralopia can be detected only by the examination of the sense of light, and of the velocity of retinal adaptation by means of adaptometers.

Previously, one has distinguished between idiopathic and symptomatic hemeralopia, or hemeralopia due to retinal or choroidal diseases, to intoxications, etc. But there is only one type of hemeralopia: it is the one caused by deficiency in vitamin A. In this deficiency the retina is not supplied with sufficient vitamin needed for the formation and regeneration of the visual purple, the pigment so important for the function of retinal rods and cones. Looking at it, there does not seem to be anything wrong with a hemeralopic eye. The objective signs of deficiency can be elicited only by tests with the adaptometer and with the perimeter, which will show a concentric narrowing of the visual field for blue and yellow test objects.

If the hemeralopia and the vitamin A deficiency has kept on for a long time, epithelial xerosis of the conjunctiva will develop. In the civilized countries this xerosis is manifested only in a mild form as the so-called Bitot spots, which are nasalwards and temporalwards from the limbus; they are small, white, mostly triangular spots denuded from normal conjunctiva; under a magnifying glass they look like foamy masses of xerotic epithelial cells. The eyeball itself is not congested; it is rather pale, the paleness being caused by the lack of transparency of the diseased conjunctiva. Histologically, the xerosis is a hyper- and parakeratosis of the conjunctiva with deposits of keratohyalin granules in the epithelial cells and accumulation of fat in all layers. Biologically, the conjunctiva loses its character of a mucous membrane, and resembles more and more the epidermis.

It is not at all strange that conjunctival xerosis is found associated with such diseases as duodenal ulcer, steatorrhea, hepatic diseases, infectious diseases (meas-

les, tuberculosis), endocrine affections (myxedema), ascardiasis, etc. All the mentioned diseases use up a great deal of the vitamin A storage of the body.

Keratomalacia is rather frequent in malnourished or athreptic children, but in tropical countries it occurs also among adults. The cornea exulcerates, and sometimes the entire cornea changes into a large ulcer. In some cases there is also hypopyon. Sooner or later the cornea perforates, and the eye becomes blind. In small children the disease has the clinical picture of a truly systemic disease: the children lose their appetite, have diarrhetic stools, and may perish from bronchopneumonia. If they survive their sight will be lost from leukoma, or staphyloma of the cornea, or the entire eyeball may become atrophic. The keratomalacia is now considered a direct result of vitamin A deficiency.

To the three classical ocular symptoms of vitamin A deficiency may be added a fourth one called prexerosis by PILLAT. It is characterized by loss of lustre of the conjunctiva, dryness of the eye, decreased sensitiveness of the cornea, presence of xerosis bacteria and pneumococci in the conjunctival sac.

Retinal changes do not develop ordinarily, only after a long duration of the deficiency. There may be small spots on the periphery of the retina, but they are reversible under adequate therapy. The glands of the eye are also affected since they are epithelial tissues. There is a decrease in lacrimation. The ducts of the Meibomian glands become plugged with increased products of the cells, and chalazia may rapidly develop. The sebaceous glands of the eyelids also change similarly: their ducts may be obstructed by dry secretion, and produce comedoshordeola and abscesses.

The ocular symptoms were the first by which the vitamin A deficiency was recognized. Later, however, investigators found that vitamin A deficiency is a disease of the whole body, and changes develop on all epithelial coverings of the body: on the skin, its many glands and appendages (hair and nail), on the mucous membranes of the nose, the nasal sinuses, pharynx, larynx, bronchi, alveoli of the lungs, the epithelial surfaces of the intestines, urogenital tract, etc. It is, however, a false conclusion to consider every epithelial change the manifestation of vitamin deficiency, and to prescribe vitamins without further examination of the patients. Failure is certain to follow.

PLASTIC SURGERY

Edited by George H. Kimball, M. D., F. A. C. S.
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"Burns of the Hand." Donald W. MacCollun, M.D.
May 24, 1941, Page 2371, A.M.A. Journal.

The author stresses the importance of proper care of burns about the hands. He recommends that the patient be given a careful debridement if there is no shock present. Some individuals may be done under a morphine analgesia. The debridement consists of scrubbing the hands with a 50 per cent Green Soap and 50 per cent hydrogen peroxide. All blisters are opened and the raised dead skin is removed. In some cases the hair is shaved from the hands. The hands are then flushed with normal saline solution, then soaked in hexyl-resorcinol or a solution of merthiolate, and occasionally 70 per cent alcohol is used. The alcohol is painful if the patient is not asleep. It may destroy small islands of skin.

The author then states that one must decide on what type of dressings to employ. The author describes the use of both tannic acid and gentian violet or a combination of these with silver nitrate. He makes note that in children and in the cases that have all the finger surfaces burned, it is wise to use an ointment dressing. He also advocates splinting in certain cases.

In the late treatment of burns the patient is first of

all cleansed. Soaks every day or twice a day followed by dressings of tulle-gras are recommended. Over this are placed sponges wet with diluted sodium hypo-chlorite, chloremine-T, or eusol. In this way the unhealed surface is usually ready for grafting in a week or ten days. Split grafts are usually sufficient for covering of a raw surface. When there is contracture present, the author recommends release of the tendons, lengthening if necessary, and removal of the sheath in some cases. He advises excision of scar sufficient to restore function. The pedicle graft is necessary when one wants to restore the subcutaneous fat, plus the full thickness of the skin. The author recommends splinting of the hand over a period of six months following the use of free grafts.

Conclusions: The treatment of burns of the hand differs from the treatment of burns elsewhere on the body. An eschar can be used but only on hands that have not been burned completely. In complete burns an ointment should be used, accompanied by a rigid program of cleanliness and the systematic replacement of the fluid lost from the injured area. When the burns have not healed or there have been contractures from scarring, it is necessary first to diagnose exactly what tissue has been lost and to replace this loss with a similar type of tissue. Specific details outlined for the application of grafts to the hand have proved satisfactory both from a functional and from a cosmetic standpoint.

Comment: The author described in detail his procedure for the care of burns about the hands. He has noted the disadvantages of encasing burned hands in a tannic eschar. Recent experiences in the European war have led men to come to the same conclusion. They do not use tannic acid for the face or hands.

The author's use of splints in the early and late treatment of burned hands is very important. Also the stressing of the necessity of complete removal of scar in the case of contractures is a very important feature of the article.

The article is well illustrated by photographs and should be read in full by any one treating such cases.

CARDIOLOGY

Edited by F. Redding Hood, M. D.
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"Effort Syndrome." Sir Adolphe Abrahams, M.D. Lancet 240:437:438, April 5, 1941.

Graduated exercises are of therapeutic value in some cases, but basic causes and treatment are psychological.

Mobilization of adult males for army service brings to the surface many cases of effort syndrome which remain peacefully submerged in civilian life. The constitutionally inferior individual who suffers or says he experiences palpitation, tachycardia, exhaustion, giddiness and precordial pain on the slightest exertion, usually drifts to a physical level of existence of his own choosing. Under the urgent exigencies of war, such individuals are rudely plucked from their comfortable ways. What to do with them has been a problem since conscript armies have been used.

Because there is never anything organically wrong demonstrable by physical examination, many recruits with effort syndrome are accepted into armies under the assumption that the regular life and exercise will benefit them. However, according to experience in the last war and this, Sir Adolphe Abrahams, M.D., of Westminster Hospital, London, England, observes that attempts at physical restoration of these individuals have been disappointing. It is his opinion that the causes and treatment of effort syndrome are the concern of the psychiatrist.

Graduated exercises combined with good food and regular life will benefit cases of postinfective debility

or underdevelopment. Even in these cases psychological values are doubtless of importance. But effort syndrome is not explicable upon any of the many theories so far advanced. The symptoms are not due to myocardial weakness or vasomotor instability, either or both of which may be operative in producing like symptoms after severe infections.

There is no good evidence that chronic toxemia, infectious or otherwise, plays any part. If the net is cast sufficiently fine, the instruments of precision sufficiently exacting, it is possible to find some plausible abnormality in almost anybody. It is always well to eradicate an obvious source of sepsis, but the number of cases of effort syndrome which can be attributed to this cause is exceedingly small.

Hyperthyroidism is seldom a factor. At rest, the circulation of the hyperthyroidic patient resembles that of a normal person during exercise; exhibited are tachycardia, increased cardiac output and accelerated blood flow. These are absent in the patient with effort syndrome who also fails to exhibit that constant feature of hyperthyroidism, persistent tachycardia during sleep.

Normally, exercise produces slight acidosis, easily compensated by increased respiration and accelerated blood flow. The patient with effort syndrome gives the impression, not of dyspnea, but of lazy breathing; even at rest his respirations are shallow and ineffective. Hyperventilation has been offered as an explanation, but patients with effort syndrome cannot reproduce characteristic suffocation, palpitation and chest pains by hyperventilation.

To attempt to establish a uniform etiology for all cases of effort syndrome is fallacious. In typical cases the one universal factor is that of anxiety. The reason for fear in each individual is a task for the psychiatrist to discover.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D., F. A. C. S.
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"Fixation of Dislocations of the Acromioclavicular Joint and Rupture of the Coracoclavicular Ligaments." Gordon Murray. The Canadian Med. Ass'n Jr. XLIII, 270, 1940.

Fresh dislocations of the acromioclavicular joint are easily reduced, but the strappings and bandages used to maintain the reduction are usually ineffective. Applying the principle described in an earlier paper on fractures of the clavicle, the author's method is to reduce the dislocation of the acromioclavicular joint, and then pass one or two Kirschner wires through the acromion process across the acromioclavicular joint and into the other third of the clavicle. It was hoped that, if the joint was maintained in good position by these means, the ends of the ruptured ligaments would lie in apposition and would be in a position to unite and repair. Five cases of this type have been treated in this way with successful results in all. In most cases the wires were removed, as they necessarily passed through some fibers of the origin of the deltoid muscle, and consequently caused some discomfort on abduction of the shoulder. The patients were able to move the arms about quite freely immediately following the operation, and most of them returned to ordinary desk work within a few days without any other support. Two cases of recent wide dislocation with rupture of the coracoclavicular ligaments were treated with most satisfactory results. Roentgenograms taken later showed extensive calcification of the coracoclavicular ligaments, and gave strong confirmatory evidence that these ligaments had been torn and that they had become repaired. The attractive part of this method of fixation is the ease with which it can be carried out and its effectiveness. It supports the bones adequately and the patient has no discomfort. There is no deformity

when the ligaments have become repaired, and there is no disability later on. None of these dislocations has recurred so far.

"The Surgical Treatment of Flat Feet." Gerald L. Burke. The Canadian Med. Ass'n Jr. XLIII, 327, 1940.

The author has recently completed a detailed survey of the end results of 110 patients operated upon for flat feet at the Los Angeles Orthopaedic Hospital. In the majority of these patients Young's modification of Lowman's operation has been done. Young performs a plastic lengthening of the tendo achillis as a preliminary procedure. A drill hole and slot are made vertically through the scaphoid and the tendon of tibialis anterior is pulled posteriorly and placed through the slot into the drill hole. After the operation, long leg plaster casts are applied which are removed at the end of seven weeks.

The indications for operation are painful flat feet which have not improved under conservative treatment or which in the surgeons judgment are unlikely to improve under conservative treatment. The author believes that in general there is a fundamental objection to the fusion of any joint in the surgical treatment of flat feet. The results of operation have been satisfactory to both patients and surgeons in more than 90 per cent of the whole series.—Earl D. McBride.

INTERNAL MEDICINE

Edited by Hugh Jeter, M. D., F. A. C. P., A. S. C. P.
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"Malignant Melanoma Cells In the Bone Marrow."

By John D. Battle, Jr., M.D., Cleveland, and Joseph Stasney, M.D., New Orleans. *Archives of Pathology*, May, 1941, Volume 31, Number 5, Page 631.

The authors have reported a case in which melanotic tumor cells were found in the bone marrow in connection with the study of bone marrow sternal puncture biopsy. Most of the tumor cells were oval or fusiform with a small rim of cytoplasm containing varying amounts of brown to black granules. The appearance of the metastatic tumor cells in the bone marrow smears is thought not to be entirely characteristic and for that reason most authors have expressed the belief that a definite diagnosis of tumor cells can be made only when the cells are arranged in syncytia. The tumor cells found in this case resembled the large variety in many respects. The presumptive diagnosis of malignant melanoma, on the basis of the bone marrow findings, was confirmed by post mortem.

"Studies on 'Stored Blood.'" By R. O. Muether and K. R. Andrews, St. Louis University School of Medicine, Department of Internal Medicine, Firmin Desloge Hospital. American Journal of Clinical Pathology, April, 1941, Volume 11, Number 4, Page 307.

The authors describe in this: (1) The Technic for Storage Blood; (2) Effect of Storage on Human Blood, and (3) The Effects of Stored Blood on the Recipient. These are practical reports and give useful data in connection with the recent advances in medicine as regards the use of blood banks, blood plasma and serum. The following summaries and conclusion give a good conception of the material brought out in the three separate articles.

The history of the storage of human blood is briefly related.

The various technics for the storage of blood were discussed and their relative values are considered.

The resistance of the stored erythrocytes to hypotonic solutions of saline is diminished as early as six hours after the blood is withdrawn from the donor.

This increased fragility of the erythrocytes appears in all types of preservatives used.

The mechanical fragility of the erythrocytes in the D.C.B. solution was normal after 40 days storage.

Potassium content of the plasma of stored blood increases at a gradual rate but never reaches dangerous proportions, even after 80-90 days storage.

Complement is well preserved in D.C.B. solution.

After 21-60 days, 60 per cent of prothrombin remained in eight of ten bloods studied.

Blood may be safely stored for 30 or 40 days if a suitable preserving fluid is used, and providing the stored blood is carefully watched for excess hemolysis.

UROLOGY

Edited by D. W. Branham, M. D.
502 Medical Arts Building, Oklahoma City

"Treatment Of Rupture Of the Kidney." Oswald S. Lowsey and Joseph H. Menning, Department of Urology, New York Hospital, N. Y. Journal of Urology, March, 1941.

Dr. Lowsey and Dr. Menning have written this article to condemn the policy of watchful waiting in instances of rupture of the kidney. They believe that where question exists as to the severity of the traumatism, exploratory operation and so-called ribbon-gut ligature with implantation of fat to the bleeding area should be performed. Their experience with such injuries has taught them that much less serious renal disability is liable if such operations are performed. Although they emphasize that the treatment of renal injuries is an individual clinical problem, they are inclined to perform exploratory surgery in those patients who show gross hematuria for more than 24 hours following injury.

Some experimental work on traumatized kidneys of dogs was done to support the clinical basis for such treatment.

COMMENT: What experience I have had with injuries to the kidney has been on the whole satisfactory, provided that massive hemorrhage with shock indicative of a pulpified lesion is not present. In the majority of instances, the ruptured kidney heals satisfactorily with a minimum of renal distortion and loss of function afterwards. I do not believe that there is sufficient clinical background for the teaching that an injury to the kidney is an acute surgical problem.

In the general discussion that followed I observed there was also disagreement with the essayist on this question of operative treatment of the bleeding kidney. The majority of those who shared in the discussion felt that conservative management was a safe course to follow.

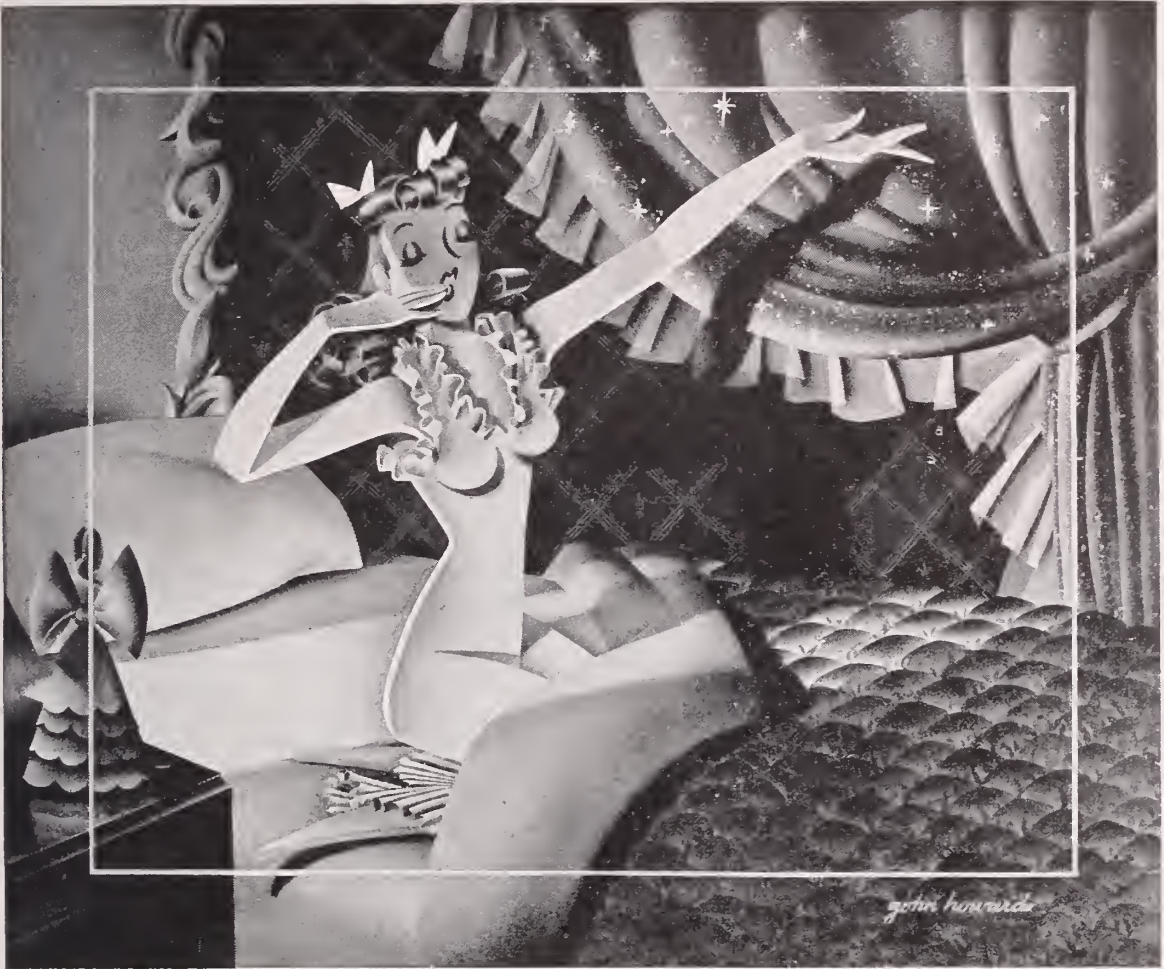
"Pyelonephritis Of Pregnancy." Dr. George C. Prather. Journal of Urology, February 1941.

An interesting presentation of a subject that should concern every general practitioner.

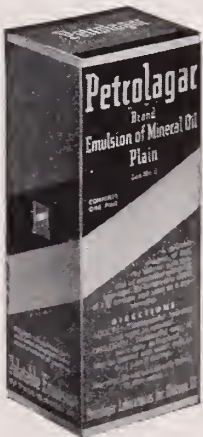
The author finds sulfanilamide the most effective drug for urinary tract sterilization in instances of pyelonephritis of pregnancy. He administers relatively large doses of the drug with no detrimental effects observed to either the mother or the fetus.

In a tabulation of cases of pyelonephritis as to the probability of recurrence of the disease in subsequent pregnancies, he found that the patient who had had an attack of pyelonephritis during one pregnancy had one chance out of two of having pyelitis again. However, if she had sterile urine at the beginning of the pregnancy, her chances of having the disease again was reduced to one out of six. Obviously efforts to sterilize the urinary tract before pregnancy occurred is necessary, if we are to reduce the incidence of pyelitis.

It was interesting to note that pyelitis of pregnancy and toxemia of pregnancy held nothing in common. In a study of a series of cases of pyelitis of pregnancy there was no increased incidence of toxemia of pregnancy. He therefrom concludes that pyelonephritis is not a cause of toxemia of pregnancy.



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Atoka-Coal.....	J. B. Clark, Coalgate	J. S. Fulton, Atoka	
Beckham.....	H. K. Speed, Sayre	T. W. Pratt, Cheyenne	Second Tues. eve.
Blaine.....	L. R. Kirby, Okeene	W. F. Griffin, Watonga	
Bryan.....	J. T. Colwick, Durant	W. K. Haynie, Durant	Second Tues. eve.
Caddo.....	E. W. Hawkins, Carnegie	G. E. Haslam, Anadarko	
Canadian.....	P. F. Herod, El Reno	A. L. Johnson, El Reno	Subject to call
Carter.....	R. C. Sullivan, Ardmore	H. A. Higgins, Ardmore	
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Choctaw.....	C. H. Hale, Boswell	Floyd L. Waters, Hugo	
Cleveland.....	D. G. Willard, Norman	Phil Haddock, Norman	Thursday nights
Comanche.....	G. G. Downing, Lawton	Donald Angus, Lawton	
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Custer.....	C. Doler, Clinton	W. C. Tisdal, Clinton	Third Tuesday
Garfield.....	V. R. Hamble, Enid	John R. Walker, Enid	4th Thursday
Garvin.....	Robert M. Alexander, Paoli	John R. Callaway, Pauls Valley	Wed. before 3rd Thur.
Grady.....	Turner Bynum, Chickasha	Roy E. Emanuel, Chickasha	3rd Thursday
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Hughes.....	William L. Taylor, Holdenville	Imogene Mayfield, Holdenville	First Friday
Jackson.....	Raymond H. Fox, Altus	Willard D. Holt, Altus	Last Monday
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Lincoln.....	J. W. Adams, Chandler	C. W. Robertson, Chandler	First Wednesday
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Oklahoma.....	George H. Garrison, Okla. City	W. W. Rucks, Jr., Okla. City	4th Tuesday
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Pontotoc.....	E. M. Gullatt, Ada	R. E. Cowling, Ada	1st Wednesday
Pottawatomie.....	R. M. Anderson, Shawnee	Clinton Gallaher, Shawnee	1st & 3rd Saturday
Pushmataha.....	E. S. Patterson, Antlers	D. W. Connally, Antlers	
Rogers.....	W. A. Howard, Chelsea	P. S. Anderson, Claremore	1st Monday
Seminole.....	Claude S. Chambers, Seminole	Mack I. Shanholtz, Wewoka	
Stephens.....	E. C. Lindley, Duncan	John K. Coker, Duncan	
Texas.....	L. G. Blackmer, Hooker	Johnny A. Blue, Guymon	Subject to call
Tillman.....	T. F. Spurgeon, Frederick	O. G. Bacon, Frederick	
Tulsa.....	J. C. Brogden, Tulsa	Roy L. Smith, Tulsa	2nd & 4th Mon. Eve.
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Washington-Nowata.....	S. A. Lang, Nowata	J. V. Athey, Bartlesville	2nd Wednesday
Washita.....	A. S. Neal, Cordell	James F. McMurry, Sentinel	
Woods.....	C. A. Royer, Alva	O. E. Templin, Alva	Last Wednesday
Woodward.....	Joe L. Duer, Woodward	C. W. Tedrowe, Woodward	

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NUMBER 8

Surgical Procedures in Chronic Intestinal Obstruction*

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OKLAHOMA CITY, OKLAHOMA

The onset and course of chronic intestinal obstruction may follow any one of three forms. The condition may develop silently until, wholly without warning, it passes into an acute phase as the occlusion becomes complete. In this case it cannot be differentiated clinically, from acute obstruction. This silent course is not infrequent when the cause of obstruction is carcinoma of the right half of the colon. In the second form, the onset, while not silent, is insidious, and the symptoms, slight at the beginning, are steadily progressive. In the third form, the obstruction is intermittent, with subacute attacks alternating with periods of relative or absolute freedom from symptoms.

The diagnosis of chronic obstruction is thus more difficult than that of acute obstruction with its characteristic onset and course. In its acute termination, chronic obstruction is frequently diagnosed as acute obstruction from failure to note and to properly evaluate the trivial symptoms, that have long been present: the "indigestion," mild colicky pains, "grumbling of the bowels," gradually intensifying "sluggishness of the bowels," interrupted by occasional brief attacks of diarrhea — banal symptoms for which familiarity has bred contempt in the mind of the layman.

The x-ray can be useful in diagnosis, but a negative picture cannot be depended upon to rule out intermittent or partial obstruction. The simple, or flat, x-ray film may show distention of an intestinal loop because the gas that is present serves as contrast medium. In the obstructed small intestine, fluid levels with gas caps can be visualized at times on the simple film. Extreme caution must be exercised in the use of barium sul-

phate. Administered by mouth or forced above an obstruction by an enema given with injudicious speed, it may convert a partial into a total obstruction. And here, it must be borne in mind, that high grade obstruction, easily convertible into total occlusion of the lumen, is compatible with great mildness of symptoms. In the small intestine and in the proximal half of the large intestine, the bowel contents are fluid, and for a long time, will continue to pass easily through a slowly developing stricture — whereas, a like impediment to passage in the distal colon or rectosigmoid, may produce serious symptoms.

In intermittent obstruction, the attacks are usually acute, or subacute. Unless the cause itself is recurrent, as recurrent intussusception, intermittent obstruction means that the lumen of the bowel is so nearly occluded that trivial temporary local conditions are enough to block it completely while the condition persists or, until increased peristalsis has forced a passage.

From the diagnostic standpoint, increased peristalsis is a particularly important phenomenon in the chronic form of intestinal obstruction. Whereas, in acute obstruction, distention thins the wall of the bowel, and the exaggerated peristalsis that is present is rarely palpable, and still more rarely visible through the abdominal wall, the long continued hyperperistalsis of chronic obstruction leads to hypertrophy of the circular muscle of the bowel and peristalsis may be both felt and seen.

Vomiting, and distention of the abdomen, may aid in locating the site of the obstruction. As a rule, the higher the obstructing lesion, the more frequent the vomiting. But vomiting must be studied in connection with the other diagnostic data or it may mislead.

*Read before the Section on General Surgery, Annual Session, Oklahoma State Medical Association, May 20, 1941, in Oklahoma City.

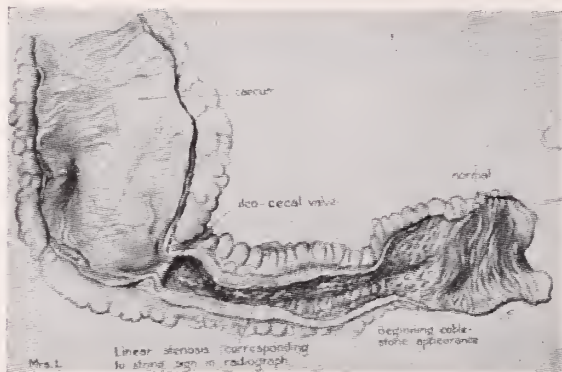


Figure 1—Hleitis: Typical x-ray findings in an advanced case with specimen removed.

In colonic obstruction, vomiting may be of reflex nature. From the contour of the distended abdomen one can usually judge with a fair degree of accuracy as to whether the obstruction is in the small or large intestine. If in the small intestine, the lower mid-abdomen is ballooned and a stepladder pattern formed by distended loops may often be seen if the obstruction is located high. In large bowel obstruction the protrusion is of the flanks and upper abdomen and the central area is relatively flat and soft.

Knowledge of the presence of a condition that is liable to produce obstruction, gives warning in advance and thus facilitates the diagnosis. But, aid from this source is seldom forthcoming, inasmuch as the obstruction is often the earliest evidence we have of the existence of the causative lesion. The most useful pointer of this sort, as regards obstruction of the small bowel, is an abdominal or pelvic operation in the past history.

Wakefield and Weber (1) state that from 70 to 75 percent of patients between 10 and 40 years of age who have mechanical obstruction of the small bowel have had previous abdominal operations.

One may also take warning from a history of peritonitis or inflammatory disease of one of the organs of the female pelvis. According to Maingot, (2) adhesive obstruction due to late post-operative or post-inflammatory adhesions is rarely of sudden onset. In any severe inflammatory or ulcerative disease of the intestines the healing processes may dangerously narrow the bowel lumen. This applies to both the large and the small bowel. By far, the most frequent cause of obstruction of the large bowel is annular carcinoma, and the stealthy progress of carcinoma, in this region, is well known.

Enough has been said to show that, although chronic obstruction of the intestine is always a late result of a pathologic process of long standing, this fact, is of little aid in establishing an early diagnosis.

It is important to diagnose chronic intestinal obstruction. First, because operation in the chronic stage or in the interval between intermittent attacks is far safer than intervention in the acute attack, and, second, because diagnosis of the obstruction is, in many cases, the indispensable first-step toward diagnosis of the causative lesion.

Treatment of the obstruction is not an emergency matter, as in the case of acute obstruction. Nevertheless, since it is impossible to judge, with any accuracy, the grade of the obstruction or of the intestinal distention from the clinical picture, one cannot know how close the patient may be to the acute stage, or to strangulation. Therefore, while one should take time to study the case and plan treatment intelligently, mere procrastination is not in order.

The first thought in treatment of chronic obstruction is the same as in acute obstruction — relief of the distention of the bowel. Some degree of distention is probably present, and it is important to remember that high grade intestinal distention, especially of the colon, may exist without noticeable distention of the abdominal wall. The train of grave systemic evils that result from the factor of intestinal distention alone is well known and will not be insisted on here. But it cannot be too often insisted that an extensive operation in the presence of any degree whatsoever of intestinal distention is dangerous. Enormous distention may exist with an almost symptomless carcinoma of the colon. With any considerable degree of obstruction, David (3) warns, even a side-tracking operation is not advisable.

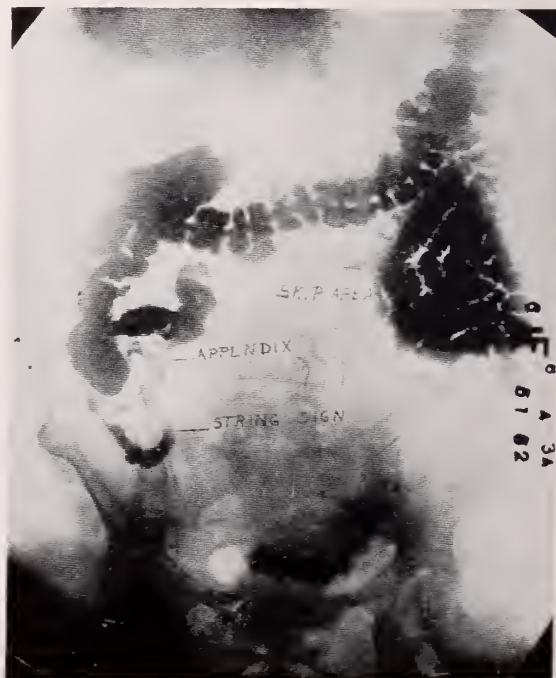




Figure 2—Epiploitis: X-ray, showing narrowing of the bowel from inflammatory lesion.



Figure 3—X-ray showing perfect recovery, one year following cecostomy.

Hand in hand with relief of distention, as preparation for such radical surgery as may be required, should go the rehabilitation of the patient. Dehydration, anemia, demineralization, are all probably present and must be combated by the appropriate measures. Since we are dealing, in chronic cases, with simple, incomplete obstruction, there is a good prospect of relieving distention of the small bowel by Wagensteen's technic of suction-siphonage, or the Miller-Abbott tube.

Non-surgical methods of decompression of the large intestine, such as repeated warm enemas, heat to abdomen, and mineral oil by mouth, will sometimes succeed in low grade obstruction, but in high grade obstruction reliance on such measures is extremely hazardous.

The surgical means of relieving distention is enterostomy, and should be advised in the more severe cases when not relieved by suction-siphonage. Enterostomy is best done under local anaesthesia. It puts relatively little strain upon the patient. But it is not entirely without danger, chiefly the danger of peritonitis or abdominal wall infection from leakage from placing the tube or sutures in an over-distended bowel wall. To reduce this danger to a minimum, isolate the segment of bowel with intestinal clamps and aspirate all gas and liquid contents, using a large lumen hypo needle, before placing the sutures and introducing the tube.

No general exploration should be made — no attack on the obstruction attempted. Select the first distended loop of bowel that presents itself. The entire procedure should be carried on as gently and non-traumatizing as possible. It is necessary to assure

continuance of peristalsis, lest the enterostomy fail of its purpose. And for this, morphine is indispensable because it acts to maintain the tone of the bowel muscle. Pityuitrin and all purgative remedies must be used with great caution, and never while the obstruction exists.

Oxygen as an adjunct in the treatment of obstruction is recommended on two specific grounds: first, that with intestinal distention and the resulting changes in the chemical composition of blood, the vital capacity of the lungs, and the oxygen carrying capacity of the blood is impaired; second, that oxygen increases the absorption rate of gas within the bowel.

Between the decompression and the operation for removal of the obstructing lesion, a sufficient interval must be allowed for recovery of the bowel wall, as well as for improvement in the patient's general condition. The condition of the bowel wall is important to the success of an anastomosis. If the cause of the obstruction is not already known, a systematic exploration is then carried out. Long standing and extensive adhesion constricting or kinking of the small intestine may require entero-anastomosis between free loops. It is, above all things, necessary to enter on the exploration with an open mind and to be prepared to deal with unexpected conditions. Congenital anomalies resulting in partial obstruction may come to the operating table late in life, if not recognized and dealt with in childhood. Such are most likely to be seen in the upper small intestines and in the rectum. Regional ileitis is said to be the most important of the intrinsic occlusive lesions of the small intestines. Right

hemicolectomy, as for cancer of the cecum, is said by Maingot to restore survivors to perfect health and function, but the mortality rate is 15 per cent. In obstructive cases that will not permit radical resection, a measure of relief is offered by anastomosing the healthy part of the ileum to the transverse colon, to relieve the obstruction and divert the bowel contents away from the diseased area until such time as a resection may be accomplished with greater safety. Meckel's diverticulum is another well recognized cause of obstruction of the ileum. It should be removed surgically, by a technic similar to that of an appendectomy, if the opening into the ileum is small; by incision of the base and transverse suture, if wide.

Organic narrowing of the lumen of the large bowel as a sequel of severe inflammatory or ulcerative disease requires an artificial anus, ileostomy or colostomy according to the portion of the bowel affected, which may or may not have to be permanent, depending on the reaction of the changes in the bowel wall when the latter is put at rest.

The chief cause of chronic intestinal obstruction is carcinoma of the large bowel. To discuss adequately the surgery of this condition, with evaluation of the different technics in use today, would require a day's symposium. It appears obvious that no one method is best for all cases and that the surgeon should select the method best suited to the individual case. On the other hand, since opportunity for experience is, at best, limited, no individual surgeon can attain equal skill in all technics, and an important element of safety for the patient must always be the operator's familiarity with the technic used. This narrows the choice of operation for the individual surgeon. For the average case of carcinoma of the colon, especially the descending colon, Mikulicz' operation is still generally considered the safest and, therefore, the best. It has been found possible to adapt this operation for use in all segments of the colon. This operation utilizes the principles of operating in stages, in exteriorization, the "double-barreled shotgun" pressure necrosis to convert afferent and efferent loops into a single cloaca after resection of the tumor bearing segment, and final restoration of the fecal stream. For carcinoma of the cecum or ascending colon, removal of the lower six inches of the ileum, the ascending colon and about one-third of the transverse colon by an immediate one stage resection with side-to-side anastomosis, has proved a generally satisfactory technique, but even here the Mikulicz technique is not without its advocates.



Figure 4—Mucoid carcinoma right half of colon. Chronic obstruction, (almost complete). All symptoms suggestive of stomach lesion.

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DISCUSSION

V. H. MUSICK, M.D.

OKLAHOMA CITY, OKLAHOMA

Mr. Chairman, members of the Oklahoma State Medical Association, I have enjoyed very much Doctor Stout's discussion on chronic intestinal obstruction.

His practical view of the limitation of diagnosis of small bowel lesions and his superb handling of the surgical procedures was excellent.

I wish to emphasize in the discussion two major points in the diagnosis and treatment of chronic small bowel obstruction: first, the roentgenological changes in the mucosal relief pattern, and second, the chemical changes in the blood as the obstruction reaches the acute stage.

For a great many years, the x-ray of segments of the gastro-intestinal tract other than the small bowel has been improved upon until now the esophagus, stomach, and colon work is fairly accurate. The small bowel, however, has been neglected. It is only now, that we are beginning to learn a little of the normal and pathological appearance of the small bowel as displayed on

x-ray. The reason for this lethargy is two-fold, first, because the x-ray of the small bowel is tedious, painstaking, and time consuming; second, the small bowel is rarely attacked by disease.

The technique of small intestinal x-ray studies is as follows: The patient is given a barium mixture by mouth and the contents of the stomach rapidly evacuated by pressure. Several inches of jejunum can be inspected on fluroscopy, noting any changes in the lumen, stiffening or changes in the mucosal pattern. In 30 minutes another segment may be seen on fluroscopy or by plate. If a painstaking examination is desired it may be necessary to fluroscope or take a plate every 30 minutes. A meal at the end of an hour may stimulate peristolic activity so that the entire small intestine may be examined in a comparatively short time.

The terminal ileum is best seen by administration of barium by enemata and the forcible expulsion of the cecal contents retrograde through the ileocecal valve.

Plates taken 8 to 24 hours after barium by mouth may show isolated loops of bowel, while a plain flat plate taken on an empty stomach may show the typical step-ladder appearance of complete small bowel obstruction.

Definite signs of obstruction, such as the last two mentioned, are rarely seen because intestinal lesions are usually encircling growths that do not ulcerate deeply or are due to adhesions which are difficult to demonstrate. Localized, sharply defined narrowing with ballooning of the proximal segments may be seen.

Some times a palpable tumor may be felt over a narrow, stiffened area. Defects showing the sharply defined border may be a constant finding on all plates.

If intussusception occurs at the tumor site, it may be demonstrated by x-ray, by seeing the small bowel invaginated into the distal segment or through the ileo-cecal valve.

Benign tumors are rare and are usually pedunculated and hardly ever cause complete obstruction. Intramural myomas, fibromas or adenomas present themselves as half mooned shaped defects, projecting into the intestinal lumen. Adhesions are as a rule encircling and usually found only on exploratory operation.

Carcinomas are rare and when they do occur are usually mucoid in character. They present the same sharply defined x-ray characteristics as the benign tumors.

Sarcomas are even less prevalent in the small intestine than carcinoma. The most common type is the liomyosarcoma.

The chronic inflammatory types of obstruction caused by tuberculous infection,

amoeba, regional idiopathic ileitis or other inflammations due to micro-organisms or parasites, are relatively rare, but of enough importance to mention. They exemplify themselves on x-ray by cord-like narrowing, stiffening and destruction of the normal mucosal pattern of a considerable segment of bowel. The proximal segment may be dilated. Tuberculous enteritis may be differentiated by finding tubercle bacilli either in the feces or by demonstrating it by x-ray either in the kidney or lung. The only other way I know of to differentiate tuberculous enteritis from regional ileitis is the corrugated appearance of tuberculous enteritis while regional and amoebic ileitis give a more smooth appearance.

The second point of importance in the diagnosis of small bowel obstruction has to do with changes in the chemistry in the blood serum as the obstruction nears completion.

It should be remembered that the symptoms of high intestinal obstructions are more severe and acute in nature than those of lower obstructions. This is partly explained by changes in the acid base equilibrium due to water loss through vomiting. The loss of chlorides and sodium usually parallels the loss of extracellular fluids. This is followed by a breakdown in the compensatory mechanism through more loss of fluids and electrolytes through vomiting.

Dehydration may cause:

1. Reduction in the plasma volume.
2. Increased R.B.C. and hematocrit reading.
3. Increase in blood protein.
4. Increase in Non-protein-nitrogen.
5. Reduction of oxygen in venous blood.

Loss of sodium and chloride may cause:

1. Reduction of chlorides in the serum.
2. Reduction of total base.

It is therefore essential if one expects a complete obstruction to note the following:

1. Serum chlorides.
2. CO₂ combining power.
3. Non-protein-nitrogen.

Normal chlorides are about 370. These may be reduced to 80 percent of normal. Normal values for CO₂ combining power are 50-160 volume percent. This may be increased as much as 100 volumes percent. Non-protein-nitrogen values of 200 or more are not uncommon.

To summarize, small intestinal obstructions are relatively rare and difficult to diagnose. Advances are being made in x-ray examination of the small bowel and may be helpful in the diagnosis.

Blood chemical changes in the chlorides, CO₂ combining power, and non-protein-nitrogen are helpful in the diagnosis and treatment of complete obstructions.

Appendicitis In St. John's Hospital

E. O. JOHNSON, M.D.

TULSA, OKLAHOMA

Numerous maps (10) of the United States illustrating geographic distribution of the appendicitis death rate show that the highest death rates occur in two regions, the Rocky Mountain and the Central Plains regions, especially Montana, Idaho, Wyoming, Nevada, Utah and Colorado. Inasmuch as Oklahoma borders on these two regions, and has a lower mortality rate than three other neighboring states, according to these investigators, it was decided that an investigation of the records of a hospital in Oklahoma might be of interest. Also, it was considered that a review of appendicitis in the years previous to the general use of the sulfonamide compounds might be of value in a comparison with a later study.

GENERAL DATA

The data of this report of 3,135 clinical cases in which a diagnosis of appendicitis was made, or the appendix was removed (prophylactically during the course of other operations) is taken from the admissions to St. John's Hospital, Tulsa, Oklahoma, from January, 1927 to January, 1937, and represents the work of about 90 different surgeons whose training was received in approximately 35 different medical schools. However, 64 percent of these cases, or 2,009 cases, were cared for by only ten surgeons. Twenty-one physicians cared for only one each, and 54 surgeons had less than ten cases each. Although St. John's Hospital has the approval of the A. M. A. for internship and is an accredited hospital by the American Hospital Association and the American College of Surgeons, the period over which this study was made represents its most formative years. The hospital first opened in 1926, and did not have a full time pathologist until 1928.

In reviewing the hospital records an attempt was made to classify them as simply and accurately as possible, using the same classification others have used and which was more recently emphasized by F. G. Connell (Table II). They were divided into two general classes: acute and chronic. The acute were further divided into: simple acute, gangrenous, perforated without abscess formation, and perforated with abscess formation. The chronic cases were not sub-

divided in this report except to differentiate between the incidental or prophylactic appendectomies. All cases with the diagnosis of subacute appendicitis not definitely acute were listed with the chronic, making the acute cases very carefully selected. In all cases the following notes were made from the records: name of attending physician, the hospital number, age, sex, duration of illness since onset, the ingestion of a cathartic, previous attack, pain, nausea, vomiting, diarrhea, constipation, admitting pulse, admitting temperature, tenderness, muscle spasm, abdominal rigidity, mass, vaginal examination, rectal examination, leucocyte count, poly count, pathological report, incision used at operation, drain, hospital days, complications, mortality, and type of anesthetic.

Yearly admissions of all types of appendicitis (Table III) show a variation from the lowest of 130 cases in 1926, the first year the hospital opened, to the highest of 435 cases in 1936, with a yearly average of 313.5 cases, over the ten year period studied. Over this period the yearly average admissions for acute cases was 135, and for chronic cases including all incidental appendectomies, was 178.3. The yearly admission according to sex is listed in Table IV.

Of the 3,135 cases reviewed (Table II), 1,955 cases or 43.2 percent were acute; 1,765 cases, or 56.2 percent, were chronic (806 cases or 25.3 percent were chronic and 959 or 30.5 percent were appendectomies at the time of other operations, some of which were subacute and chronic but were not clearly defined); three cases, or 0.09 percent, were tuberculosis; five cases, or 0.15 percent, were mucocoeles; two cases, or 0.06 percent were mycotic; three cases, or 0.09 percent, were amebic; one case, or 0.03 percent, was carcinoid, and one case, or 0.03 percent was leiomyomatous.

The average age of 3,051 cases of acute and chronic appendicitis including incidental appendectomies was 29 years. In 84 cases the age was not recorded.

Of the 3,135 cases studied there were 1,181 males and 1,942 females, with no record of the sex in 12 instances.

Further data will be taken up under the various types of appendicitis.

ACUTE APPENDICITIS

Of the 1,355 cases of acute appendicitis (all types) 772, or 56.9 percent were males, and 573, or 42.2 percent were females. The sex was not recorded in ten cases, or 0.7 plus percent.

The relation of sex to the type of acute appendicitis (Table VI) was studied and found to be as follows: Of 774 cases of simple acute appendicitis 409, or 52.8 percent were males and 365, or 47.2 percent were females; of 255 cases of gangrenous appendicitis 159, or 62.3 percent were males, and 96, or 37.7 percent were females; of 179 cases of perforated appendicitis without abscess 116, or 64.8 percent were males, and 63 or 35.2 per-

AGE (11, 12, 15, 16, 17, 18, 29)

The average age for 1,286 acute cases of appendicitis (all types) was 25.5 years, the youngest being 18 months and the oldest 78 years of age. The youngest had a simple acute appendicitis, was operated upon and lived, while the oldest had a perforated appendix and died 13 days postoperatively. Two-thirds (61.1 percent) of all acute cases of appendicitis occurred in patients between the ages of ten and thirty years, the highest incidence being in the 20 to 30 years age group (Table VII). It occurs more frequently between the ages of 30 to 40 years than in the first ten years of life. There were 23 cases in patients 60 years of age or older,

TABLE II

Classification of Appendicitis in St. John's Hospital, Tulsa, Oklahoma From January 1, 1927 to January 1, 1937.

Type of Case	No. of Cases	Percentage of Cases	No. of Deaths	Uncorrected Mortality Percentage	Corrected Percentage
Acute	1355	43.2	96	7.08	6.49
Simple Acute	807	25.7	19	2.35	2.23
Gangrenous	246	8.1	11	4.87	4.87
Perforated with Abscess Formation	120	3.8	20	16.66	15.83
Perforated	182	5.8	46	25.27	23.07
Chronic (including all appendices removed at time of other operations)	1765	56.2	10	0.56	0.50
Chronic appendicitis only	806	25.3	1	0.12	0.12
Appendectomies (at time of other operations)	959	30.5	19	0.93	0.93
Leiomyomatous appendix	1	0.03	0	0	0
Mucocoele	5	0.15	0	0	0
Tuberculosis	3	0.09	0	0	0
Mycotic	2	0.06	0	0	0
Amebic (parasitic)	3	0.09	0	0	0
Carcinoid	1	0.03	0	0	0
Totals	3135	100.00	106	3.38	3.09

cent were females; of 123 cases of perforated appendicitis with abscess formation 70, or 56.9 percent were males, and 53, or 43.1 percent were females. It was not possible to classify accurately 14 cases into the exact type of acute appendicitis.

There were 54 deaths among the 772 male patients who had some type of acute appendicitis, or a mortality rate for males of 6.9 percent; 42 deaths occurred in 573 female patients with some type of acute appendicitis, giving a mortality rate for females of 7.0 percent (See Table V).

Deaths from gangrenous, perforated, with and without abscess formation seemed to occur more frequently in males. Deaths from simple acute appendicitis occurred more frequently in females.

which gives an incidence of occurrence at this age of 1.7 percent.

The incidence of appendicitis in age groups of ten years is as follows: 95 cases, or 7.3 percent occurred between the age of birth and ten years; 365 cases, or 28.3 percent in the 10 to 20 year age group; 419 cases, or 32.5 percent in 20 to 30 year group; 219 cases, or 17.0 percent in the 30 to 40 year group; 109 cases, or 8.4 percent in 40 to 50 year group; 53 cases, or 4.1 percent in 50 to 60 year group; 19 cases, or 1.4 percent in 60 to 70 year group; and seven cases, or 0.54 percent in 70 to 80 year group.

PREVIOUS ATTACKS (16)

Out of 1,355 cases of acute appendicitis there were 243 cases, or 17 percent which were definitely the first attack. Of these 243 cases with the first attack of appendicitis,

20 died, giving a mortality rate of 8.2 percent which is higher than the over all mortality rate of 6.5 percent for all acute cases. 486 cases, or 35 percent of the 1,355 acute cases had had one or more previous attacks before admission. In somewhat less than half the cases there was no record of whether the patient had a previous similar attack or not.

The average number of hospital days was 13.2 days in 454 cases who had previous similar attacks and survived their present one. The average number of days in the hospital of 223 cases which came to the hospital with their first attack and survived was 13.6 days. Both of these figures compare closely with 13.0 days, the average number of hospital days for all acute cases which included those cases which were fatal.

TABLE III

*Yearly Admission of All Types of Appendicitis
St. John's Hospital*

Year	All Types Of Appendicitis	Chronic: Including Incidental Appendectomies	
		Acute	Chronic*
1927	130	61	69
1928	301	137	164
1929	291	174	117
1930	369	172	197
1931	329	159	170
1932	190	92	98
1933	345	134	211
1934	360	149	214
1935	385	132	253
1936	435	145	290
Yearly Average	313.5	135.5	178.3

Of the 133 cases of appendiceal abscesses, 31 cases or 23.3 percent were the first attack, and 30 cases, or 22.7 percent had had one or more attacks. One could not tell by the record in 72 cases whether the patient had had any previous attacks.

Of the 182 cases of appendicitis which had perforated without abscess formation 60 cases, or 32.9 percent had had previous attacks, and 42 cases, or 23.0 percent came into the hospital with appendiceal abscess and their first attack of appendicitis. There was no record of whether or not the remaining 80 cases had previous attacks.

DURATION (14, 16, 31, 32, 33)

The average elapsed time in days between the onset of the acute attack and admission to the hospital is shown in Table VIII. The average number of days from the onset to the time of admission to the hospital for all acute cases was 2.9 days; for all simple acute cases 2.3 days; for all gangrenous cases 2.2

TABLE IV

*Yearly Admission of Appendicitis
According to Sex
St. John's Hospital

Year	Acute		Chronic*	
	Male	Female	Male	Female
1936	81	64	52	239
1935	73	59	55	198
1934	86	63	23	188
1933	80	52	37	174
1932	57	35	36	62
1931	91	66	42	128
1930	100	71	49	146
1929	92	77	44	73
1928	71	66	42	122
1927	41	20	29	39
	772	573	409	1369

* Includes incidental appendectomies and all other types outside of acute, such as mucocoele, mycotic, etc.

days; for all perforated cases with abscess formation 7.4 days; and for all perforated without abscess formation 4.3 days.

Two hundred twenty-four cases, or 16.5 percent of the 1,355 acute cases had had appendicitis for more than three days duration before coming to the hospital. Of this number, there were 44 deaths, giving a mortality rate of 17.4 percent, whereas the mortality rate for those patients coming to the hospital before three days had elapsed after the beginning of their attack, was only 4.6 percent.

Forty-four cases, or 45 percent, of all the

TABLE V

*Deaths According to Age Groups and Types of Appendicitis
St. John's Hospital (1,355 Cases)*

Age Groups	Simple Acute	Gangrenous	Perforated	
			Without Abscess	Abscess
0-10	2	0	6	2
10-20	2	4	9	3
20-30	10	1	4	2
30-40	3	1	10	4
40-50	1	2	6	2
50-60	1	1	4	3
60-70	0	1	3	2
70-80	0	0	2	1
Totals	19	10*	44	19

* Age not recorded in 2 cases.

Acute Fatal Cases and Sex

Sex	Total Cases	Number of Fatal Cases	Mortality %
Male	772	54	6.9
Female	573	42	7.3
Total	1345	96	7.0+

* Sex not recorded in ten cases.

deaths among the acute cases of appendicitis were in this group of 224 cases who had their appendicitis for longer than three days duration before coming to the hospital.

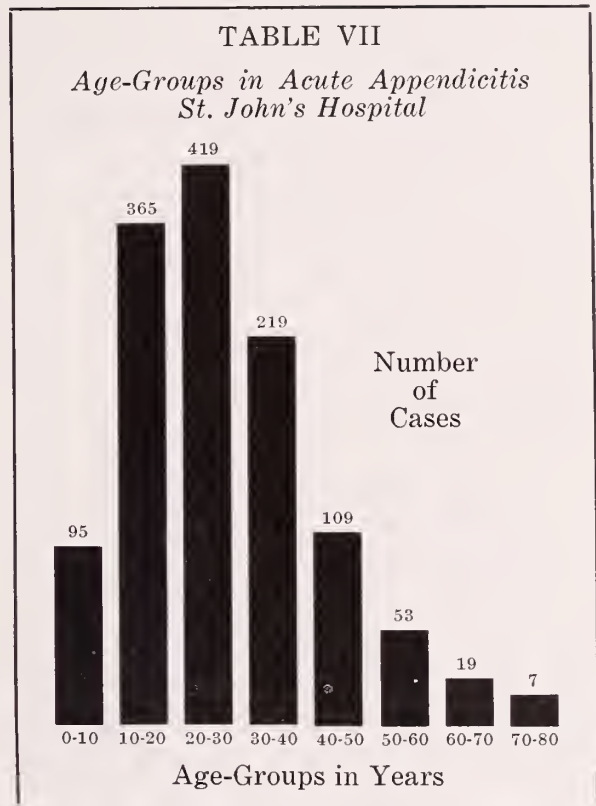
CATHARTICS (14, 31, 32, 33, 34, 35)

There were 249 cases out of 1,355 patients in which a cathartic had been taken after the onset of the attack of appendicitis, giving an incidence of 18.3 percent. Of these 249 cases, 56 were perforated, and 33 were perforated with abscess formation. Among these 249 cases there were 25 deaths, or a mortality rate of 10.0 percent. The deaths that fall in this group account for 26 percent of the total number of deaths for all acute cases. A total of 26 cases had enemata after the onset of their attack, and in 47 instances no cathartic had been taken at all. In the remaining 1,033 cases no record was made on the chart whether a cathartic had been taken or not.

The average hospital days for 244 of the patients who took a laxative was 15.0 days, which is higher than the average of 13.0 days for all 1,355 acute cases. One third, (81), of these 244 cases remained longer than the average of 15 days, the highest being 82 days.

TYPICAL SYMPTOMS (14, 16, 33) (Pain, Nausea, and Vomiting)

The symptoms of pain in abdomen, nausea, and vomiting were checked on each record in the acute cases. 791 cases, or 58.4 percent had these symptoms in their typical sequence. Eight percent of the acute cases had the pain and nausea without any vomit-



ing. The remainder had at least one of the above symptoms, and some had all these but the sequence was atypical.

Pain was the most constant symptom, being present in every case except two. In these two cases there was nausea and vomiting. In 18 cases there was no mention of pain in the record. Sixty-four, or two-thirds, of the 96 cases who died had a typical onset and sequence of the symptoms of abdominal pain, nausea and vomiting.

Nausea is the second most frequent symptom, being present in 72 percent of all cases.

PHYSICAL EXAMINATION (14, 16, 34, 35)

(Admitting Pulse and Temperature)

The average admitting temperature for all types of acute appendicitis was 99.8 degrees F. The highest admitting temperature was 106.2 F. in a 17 year old male patient who had a gangrenous appendicitis of one day's duration. He was operated upon, removing the appendix without drainage, and survived. Forty-three percent of all the acute cases had a temperature of 100 degrees F., or over on admission to the hospital. Seventy-one percent of the cases which had perforated with abscess formation had an admitting temperature of 100 degrees F. or more. Sixty-three percent of the cases which had perforated without abscess formation had admitting temperatures of 100 degrees F. or more. The yearly average temperatures and pulse rates are shown on Table IX.

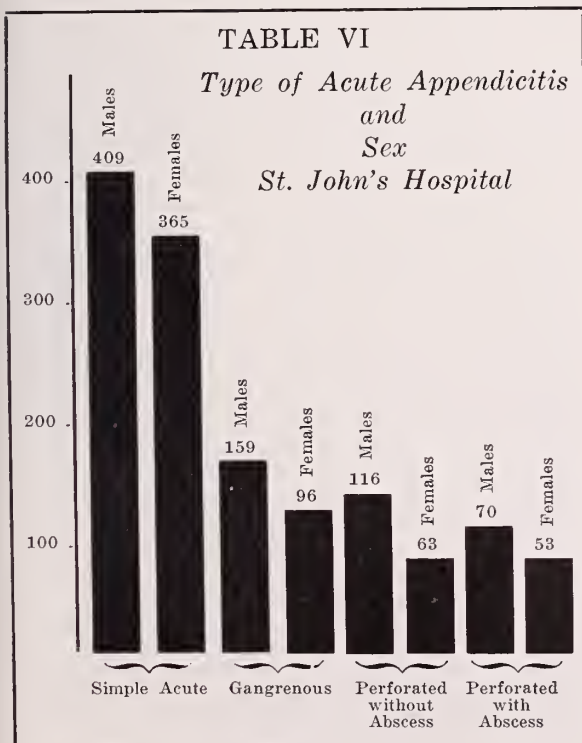


TABLE VIII

*Acute Appendicitis**Average Elapsed Time in Days Between Onset of Acute Attack and Admission To St. Johns' Hospital*

Year	Simple Acute	Gangrenous	Perforated Without Abscess	Abscess	All Cases
1927	3	3	10	8	4.2
1928	2	3.5	2	8	2.9
1929	3	2	6	7	3.9
1930	3	2	4	5	2.9
1931	2	1.4	3	6	2.3
1932	2	3	3	6	3.0
1933	2	2	6	10	2.1
1934	2	2	3	10	2.4
1935	2	2	3	7	3.0
1936	2	1.3	3	7	2.7
Average for all acute cases.....					2.9 days
Average for simple acute					2.3 days
Average for gangrenous.....					2.2 days
Average for perforated without abscess.....					4.3 days
Average for abscess.....					7.4 days

The pulse on admission is the most variable finding; in five instances it was too rapid to count. The highest pulse counted on admission was 220, in a 15 year old female with a perforated appendix who died of diffuse peritonitis one day after admission. The slowest admission pulse rate was 54 per minute, which was in a 45 year old male patient who also had a perforated appendix, which was removed and drained with complete recovery in 24 days. Faster pulse rates were noted in children, as one would expect.

TENDERNESS AND MUSCLE SPASM

Tenderness over McBirney's point seems to be the most frequent finding on physical examination, occurring in 99.2 percent of all acute cases. In ten instances (0.7 percent) of acute appendicitis there was no tenderness on pressure in the right lower quadrant when examined on admission to the hospital. There was no record of a sedative or hypodermic having been administered to any of these ten cases previous to admission. There were no deaths in these ten cases, and the pathological report confirmed the clinical diagnosis in six of these cases.

Muscle spasm was present in 1,072 of the 1,355 acute cases, or in 79.1 percent of all acute cases. In 85 cases, or 6.2 percent there was no muscle spasm on admission to the hospital. In 198 cases, or 14.6 percent of the cases there was no record on the chart whether the patient had muscle spasm or not.

ABDOMINAL RIGIDITY AND MASS

Abdominal rigidity and a palpable mass were the two most infrequent physical findings, probably because the (perforation) generalized peritonitis and abscess formation occurred in only 6.29 percent and 4.15 percent respectively in this series of cases.

Abdominal rigidity was present in 291 cases, or 21.4 percent of all the acute cases. In 345 instances, or 25.4 percent, there was definitely no abdominal rigidity. There was no record in 719 cases.

The total number of appendicitis with perforation was 302, of which 182 were perforated without localization, and 120 were perforated with abscess formation. Of the 182 cases of perforated appendix without localization, 86 cases, or 47.2 percent had definite abdominal rigidity. Twenty-six cases, or 14.2 percent were definitely without abdominal rigidity, and there was no record in the remainder.

Of the 120 cases of perforated appendicitis with abscess formation 35, or 29.1 percent had definite abdominal rigidity, and 27 cases or 22.5 percent were definitely without abdominal rigidity. There was no record in the remaining cases.

A mass was palpated on admission to the hospital in 94 cases or 6.9 percent, 50 cases of which proved to be abscesses of the appendix.

Of the 120 cases of abscess of the appendix which were proven at operation 50, or 41.6 percent, had a definite mass in the right lower quadrant palpable on admission to the hospital. In 28 instances, or 23.3 percent, there was no mass in the right lower quadrant, and in the remaining 42 cases no mention was made in the record whether or not a mass was present.

TREATMENT (26-58)

It was desired in making this study to make a comparative study of the operative and non-operative management of acute appendicitis, but it was soon obvious that the

treatment was practically entirely operative as soon as diagnosis was made. The few cases that were treated non-operatively were in patients who refused operation, or who were, for some reason, dismissed without operation. Of the 1,355 cases of acute appendicitis, 1,291 cases, or 94.3 percent were operated upon, and 64 cases, or 4.7 percent were treated non-operatively. Of the 1,291 operative cases, the appendix was removed in 1,201 at the primary operation.

The most often used incision is the right rectus (muscle separating) incision which was used in 805 cases, or 62.3 percent of all operative cases. The McBirney incision was used in 187 cases, or 14.4 percent; a lower midline incision was used in 84 cases, or 6.5 percent; a right para median incision was used in 51 cases, or 3.9 percent; a transverse incision was used in 28 cases, or 2.1 percent; a right para rectus incision was used in 21 cases, or 1.6 percent; an oblique

semilunar incision in one case, or 0.5 percent. No operation was performed in 11 cases, and the type of incision was not recorded in 15 cases, or 8.3 percent.

In the 120 cases of perforated appendices with abscess formation the following incisions were used: right rectus 72 times, or 60 percent; the McBirney incision 13 times, or 10.8 percent; the lower midline incision eight times, or 6.6 percent; the transverse incision three times, or 2.5 percent; the right paramedian incision four times, or 3.3 percent; the right pararectus one time, or 0.8 percent, and the flank incision two times, or 1.6 percent. Five cases were not operated, and in 12 records no record was made of the type of incision used.

Of the 1,291 cases operated upon, a single appendectomy without drainage was done in 768 cases or 59.4 percent, and appendectomy with drainage in 388 cases, or 30.0 percent, and drainage without an appendectomy in

TABLE IX

Yearly Average Temperatures, Pulse Rate, and Leucocyte Counts In Acute Cases On Admission

St. John's Hospital

Year	No. of Acute Cases	Average Temperatures	Average Pulse Rate	Average Leucocyte Count	Average Poly Count	Total No. Leucocyte C
1927	61	100.1	100	17,200	84	56
1928	137	100.4	102	16,800	81	137
1929	174	99.4	100	17,700	80	158
1930	172	99.8	96	16,300	85	159
1931	159	99.6	94	15,400	82	151
1932	92	99.7	92	15,200	83	83
1933	134	100.0	96	14,500	82	134
1934	149	99.6	95	14,100	80	140
1935	132	99.5	95	15,000	80	126
1936	145	99.6	96	16,100	83	145

* Includes perforated, abscess, gangrenous, and simple acute cases.

Highest temperature	106.2	Highest Leucocyte	85,000
Lowest temperature	95.6	Lowest Leucocyte	4,350
Highest pulse rate.....	Too fast to count (220)	Highest Poly	98
Lowest pulse rate.....	54	Lowest Poly	25

incision was used in three cases, or 0.2 percent; a flank (kidney incision) and semilunar incision were used in two cases each, or 0.1 percent respectively. No report was present in 76 instances of the type of incision used. The type of incision varied more with the operator than with the type of case, certain operators using one type of incision more than another.

In the 180 cases of perforated appendicitis without localization, the right rectus incision was used 112 times, or 62.2 percent, the McBirney incision 15 times, or 8.3 percent, the right paramedian incision 11 times, or 6.1 percent, the right pararectus incision six times, or 3.3 percent, the lower midline six times, or 3.3 percent, and transverse incision in three cases, or 1.6 percent, and the

91 cases, or 7.0 percent. The remaining records were not clear on this point. Table X shows the yearly treatment of acute appendicitis in relation to drainage.

LABORATORY (9, 11, 12, 14, 16)

(Poly and W. B. C. Count)

On admission to the hospital a routine blood count is made, consisting of R. B. C.'s, W. B. C.'s, estimation of hemaglobin, and differential white count. White blood counts were present in 1,309 charts of the 1,355 cases of acute appendicitis, and the poly count was present in 1,296 cases of the 1,355 acute cases. Many charts had more than one routine blood count recorded.

The highest white blood cell count on ad-

TABLE X

Treatment of Acute Appendicitis in St. John's Hospital, Tulsa, Oklahoma*

Year	Appendectomy Without Drain	Appendectomy With Drain	Drain Without Appendectomy	Conservative (No Operation)
1927	32	18	6	4
1928	67	49	7	6
1929	85	65	8	1
1930	79	70	6	11
1931	102	44	7	5
1932	58	18	9	4
1933	79	33	11	10
1934	96	27	13	7
1935	77	34	11	8
1936	93	30	12	8
Totals— (1310)	768	388	90	64

* Includes Simple Acute, Abscess, Perforated and Gangrenous.

mission to the hospital was 85,000 (with an additional diagnosis of leukemia), and the lowest 4,350. The yearly average white blood cell and poly count is shown in Table IX, and is remarkably constant, the highest being 17,200 and the lowest 14,100.

There were two white blood cell counts below 5,000; 160 cases had counts between 5,000 and 10,000; 442 cases had counts between 10,000 and 15,000; 386 cases were between 15,000 and 20,000; 178 patients were between 20,000 and 25,000 and; 53 were between 25,000 and 30,000; 28 between 30,000 and 50,000, and one above 50,000.

PATHOLOGICAL REPORT (59-76, inclusive)

In spite of the fact that the hospital lacked a full time pathologist in its first year of opening, complete histopathological reports were present on 1,236 of the 1,355 records of acute appendicitis. Only ten charts failed to have the complete pathology report after the full time pathologist assumed his duties, so that 91.2 percent of all records had a complete histopathological report attached; 99.1 percent of all records had a complete report after the full time pathologist arrived.

In the acute cases the clinical diagnosis of the pathologist corresponded in about 81.1 percent of all cases in which a pathological report was attached. Of the 1,355 cases with a final diagnosis of some form of acute appendicitis there were 199 cases which the pathologist diagnosed as chronic, fibrous, etc., and 53 cases which had a pathological diagnosis of subacute appendicitis. Of the 1,765 cases which had a final diagnosis of chronic appendicitis, or in which the appendix was removed prophylactically, there were pathological reports of early acute appendicitis in 29 cases, acute or gangrenous appendicitis, in 36 cases, and subacute appendicitis in 83 cases.

HOSPITAL DAYS (7, 9, 14, 16)

The average number of hospital days for all acute cases of all types was 13 days. The average for the simple acute was 10.6 days; for the gangrenous non-perforated 12.7 days; the perforated without abscess formation 19.1 days, and the perforated with abscess formation was 21.5 days as shown in Table XI.

In general the number of hospital days increased with the number of days from the onset of the attack to admission to the hospital and with the ingestion of a cathartic.

MORTALITY

The causes of death for the 96 mortalities in the acute cases are listed in Table XII. Of the 96 deaths there were 54 males, and 42 females, giving a mortality rate of 6.9 percent, and 7.3 percent respectively, according to sex.

There were ten deaths in the 64 cases treated without operation, giving a mortality rate of 15.6 percent. Of these, four died within 24 hours after admission to the hospital, so that the corrected mortality for the non-operative treatment is 9.3 percent. This is not a large enough series to be of any value, as was hoped in the planning of this survey. There were 1,291 cases of acute appendicitis operated upon with 86 deaths, giving an operative mortality rate of 6.6 percent. Of these 86 deaths four died within

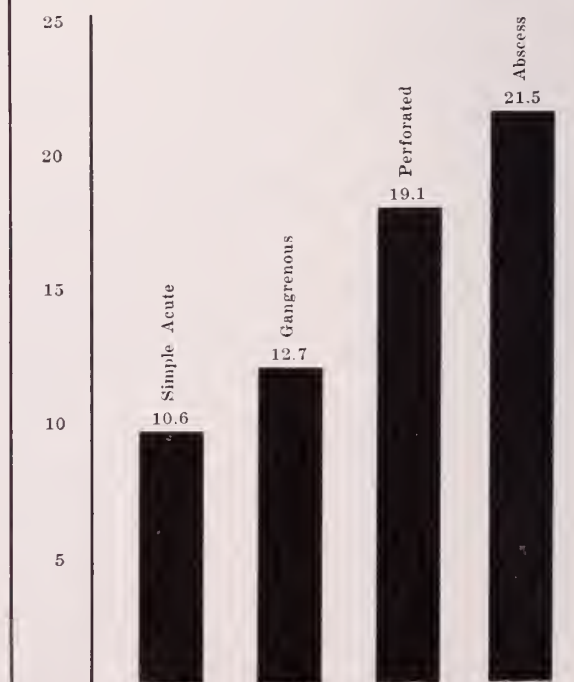
TABLE XI
*Hospital Days
and
Type of Appendicitis*

TABLE XII

Causes of Death in the Fatal Cases of Acute Appendicitis, St. John's Hospital

1. Generalized peritonitis.....	40
2. Peritonitis with.....	
a. Fecal fistula.....	3
b. Pneumonia.....	2
c. Paralytic ileus.....	2
d. Chronic nephritis.....	1
e. Abscess formation.....	
1. Pelvic abscess.....	2
2. Liver abscess.....	1
3. Dissecting B. Welchii abscess.....	1
4. Multiple abdominal wall abscess.....	1
5. Subdiaphragmatic abscess.....	1
3. Peritonitis from rupture of abscesses.....	
a. Abdominal wall.....	1
b. Iliac fossa.....	1
c. Appendiceal.....	1
4. Intestinal obstruction.....	
a. Ileus.....	4
b. Cecal intussusception.....	1
c. Volvulus.....	1
d. Obstruction, cause (?).....	1
5. Collapse lung.....	1
6. Acute hemorrhagic enteritis with lobar pneumonia.....	1
7. Acute enteritis.....	1
8. Retroperitoneal cellulitis.....	1
9. Acute suppression of urine.....	1
10. Pneumonia.....	
a. Influenzal.....	1
b. Other types.....	3
11. Cerebral hemorrhage.....	1
12. Brain embolus.....	1
13. Acute pulmonary edema.....	2
14. Not determined or listed.....	19
TOTAL.....	96

24 hours after admission to the hospital, giving a corrected operative mortality rate for acute appendicitis in all types of 6.3 percent.

The mortality according to the type of acute appendicitis is shown in Table II, and is 2.22 percent for simple acute, 4.47 percent for gangrenous, 20.8 percent for perforated without localization, and 15 percent for perforated with abscess.

The mortality according to age groups is as follows: there were ten deaths in the group from birth to ten years, giving a mortality rate of 10.5 percent; 18 deaths in 10-20 year group, or 4.9 percent; 17 deaths, or 4.0 percent in 20-30 year group; 17 deaths, or 7.7 percent in 30-40 year group; 12 deaths, or 11.0 percent in 40-50 year group; eight deaths, or 15.0 percent in the 50-60 year group; seven deaths, or 36.8 percent, in the 60-70 year group; three deaths, or 42.8 percent in the 70-80 year group.

The mortality rate according to the type of incision used is: 63 deaths out of 805 right rectus incisions giving a mortality rate of 7.8 percent; four deaths out of 187 Mc-Birney incisions, or a mortality rate of 2.1 percent; eight deaths out of 84 midline incisions, or 9.5 percent mortality; one death out of 51 paramedian incisions, or a mortality

of 1.9 percent; one death in 21 para rectus incisions, or a mortality rate of 4.7 percent, and one death in 28 transverse incisions, or a mortality rate of 3.5 percent.

The mortality according to leucocyte count is as follows: There were no deaths in patients with a blood count under 5,000; ten deaths, or 6.2 percent in patients with a leucocyte count between 5-10 thousand; 24 deaths or 5.4 percent in the 10-15 thousand group; 40 deaths, or 10.3 percent in the 15-20 thousand group; 12 deaths, or 6.7 percent in the 20-25 thousand group; three deaths, or 5.6 percent in the 25-30 thousand group; five deaths, or 17.8 percent in the 30-50 thousand group; one death or 100 percent in the 50 thousand upward group. Two-thirds (64 deaths) of all deaths occurred in those patients having a blood count between 10 and 20 thousand.

There were 24 deaths in cases which were not drained, or a mortality of 3.1 percent, while there were 60 deaths in cases that had drainage, or a mortality rate of 12.5 percent.

The mortality rate compared to the surgeons was studied and it was found that the ten surgeons who had operated upon 2,009 cases, or 64 percent of all cases of appendicitis in St. John's Hospital had 59 deaths,

TABLE XIII

Mortality in Acute Appendicitis in Other Hospitals

Hospital	No Cases	Mortality Percentage	Author
London Hospital	602	3.5	Hunter
(Collected)	1765	4.9	Wilensky
Leeds General Inf.	1080	5.7	Flint
27 Hospitals in Philadelphia	5121	5.97	Bower
Ford	940	6.5	McClure
Evanston	1138	4.13	Christopher
Union Memorial, Baltimore	1804	5.0	Finney
Employees Hosp., Fairfield, Alabama	757	5.94	Pool
Barnes and St. Louis Children's Hosp.	1859	5.00	Keyes
N. Y. Hospital	304	5.5	Garlock
San Diego	1031	8.2	Holder
Cincinnati General	2921	6.4	Reid
Providence Hosp., Detroit	10000	3.79	Davis
AVERAGE		5.19	
St. John's Hospital Tulsa, Oklahoma	3135	6.49	E. O. Johnson

TABLE XIV

Mortality Rates of Other Hospitals, All Types of Appendicitis

Hospital	Year Published	Years Studied	No. Cases	All Types of Appendicitis	Author
Cincinnati General	1936	1915-34	2921	6.3	Reid
Providence (Detroit)	1937	1925-35	10,000	2.92	Davis
Jameson Memorial (New Castle, Penn.)	1938	1935-36	440	2.3	Flannery
Presbyterian (N. Y.)	1936	1916-34	1175	5.08	Schullinger
Newark City Hospital (New Jersey)	1938	1927-36	1463	2.73	Sparague
Mr. Sinai (N. Y.)	1934	1931-33	173	2.8	Arnheim
27 Philadelphia Hospitals	1934	1928-32	14,904	4.79	Bowes
Bismark, N. D.	1934	1927-32	1000	3.8	Quain
Boston City, Boston, Mass.	1933	1927-30	2106	5.8	Walker
Atlanta Hospital	1932	1927-32	4270	4.4	Boland
Atlanta, Ga.					
Barnes Hospital Children's Hospital (St. Louis, Mo.)	1934	1915-32	1099	5.0	Keyes
Touro Infirmary (New Orleans)	1931	1924-29	2415	9.9	Miller
TOTAL			41,966	Average 4.6	
St. John's Hospital (Tulsa, Oklahoma)	1941	1927-37	3135	4.0	E. O. Johnson

or 60.8 percent of all the deaths which occurred during those years studied and a mortality rate of 2.9.

CHRONIC APPENDICITIS (102-112)

In the study of 3,135 cases there were 1,765 cases in which there was a diagnosis of chronic, interval, subacute, or recurrent appendicitis, or in which the appendix was removed during the course of another operation. Of these 1,765 cases there were 806 cases which were diagnosed as chronic appendicitis, and no other operative procedure was done except an appendectomy. On these cases, because of the dispute of whether there is such an entity as chronic appendicitis, it was decided to group these as chronic cases, even though the diagnosis of chronic appen-

ditis was on many other of the remaining charts. But if any other operative procedure was done, a cyst of the ovary was punctured, or a portion of an ovary was resected, that case was not grouped among the chronic ones, even though the clinical diagnosis was such. For this reason it is certain that there are only chronic cases in this class; any further subdivision of this group would be inaccurate according to the present records.

AGE AND SEX

Of the 1,765 cases there were 1,356 females and 409 males who had their appendices removed, or in which a diagnosis of chronic appendicitis was made.

Of the 806 cases in which the appendix only was removed and a diagnosis of chronic

appendicitis was made, there were 354 males and 435 females, which is a greater proportion of females than in acute appendicitis in this hospital. There was no record of the sex in 17 cases.

The youngest patient with a diagnosis of chronic appendicitis was seven years of age. The youngest in this group was three years of age with a pathological diagnosis of "sub-acute congestion of the appendix."

TREATMENT

Of the 806 cases of chronic appendicitis, 89 were treated without operation, and the remainder were operated upon.

The most frequently used incision was a lower midline suprapubic which was used in 569 cases, the McBirney in 103 cases, lower right para median in 70 cases, the transverse in 16 cases, the para rectus and right inguinal in 10 cases each, the right oblique in three cases, and the left inguinal in one case.

Drains were used in 136 instances.

In addition to an appendectomy in 959 cases, the following operations were done: cholecystectomy in 56 cases, hysterectomy in 180 cases of which 21 were total, D. and C. in 65 cases, T. and A. in 14 cases, presacral sympathectomy in ten cases, hemorrhoidectomy in 21 cases, repair of hernia in 24 cases, circumcision of male in six cases (female, one case). Suspension of uterus in 194 cases, nephrectomy in one case, posterior gastroenterostomy one case, many cauterizations of the cervix, and colporrhaphies.

Besides the appendectomy, there were 731 tubes removed and 411 ovaries.

MORTALITY

There were 11 deaths, ten of which occurred where there were other operative procedures besides the appendectomy. The one death in the chronic appendicitis only, occurred on the table. The cause of this death was not determined. The mortality rates for all types of appendicitis are listed in Table II.

APPENDICITIS MORTALITY IN OTHER HOSPITALS

There are many complete detailed reports comparing the mortality rates of various hospitals according to the type of appendicitis. No attempt has been made to review the literature. Inasmuch as this is a general report, the mortality rate of St. John's Hos-

pital has been compared to other hospitals only in the acute cases, and in all types of appendicitis, as shown in Tables XIII and XIV.

The mortality rate of all the acute cases is 6.49 percent, and for all cases (includes acute, subacute, and chronic, and excludes all incidental appendectomies) is 4.0 percent. These figures compare favorably with other hospitals listed, which are recent reports over a similar period of years. The hospitals compared are in ten other states, six states of which have a lower mortality rate than Oklahoma.

CONCLUSIONS

(1) A review of the records of clinical cases of appendicitis and appendectomies in St. John's Hospital, Tulsa, Oklahoma for the years of 1926 to 1937 is presented.

(2) The types of appendicitis and sex was in the same proportion as other reports, except that males were in greater proportion to females in gangrenous appendicitis and in the perforated cases without abscess formation (Table VI).

(3) The age groups (Table VII) were similar to other reports.

(4) The treatment of appendicitis in St. John's Hospital is almost entirely operative.

(5) The mortality rate for the entire series of 3,135 cases was 3.09 percent.

The mortality rate for all acute, and chronic cases was 4.0 percent.


The mortality rate for chronic appendicitis was 0.12 percent.

These mortality rates compare favorably (Tables XIII and XIV) with those found in studies in other hospitals over the same period of years although there are many reports with a much less mortality rate than in this series.

(6) Chronic appendicitis is discussed briefly.

I wish to express my appreciation to the Board of Governors of St. John's Hospital for the privilege of reviewing the records of the Staff, and to Miss Kathryn Moriarty, who is in charge of the records, for her willing help. I am very grateful to Elizabeth Shultz, Helen Crickard, R. N., Kathrine Johnson and Marie Rush for their much needed assistance.

A bibliography of 112 references can be obtained on request.



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Some Inter-Relationships of Maternal and Fetal Physiology*

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Mysterious, confusing, speculative, fascinating and intriguing, are some of the impressions that come with just a little study or contemplation of this subject and it is with both trepidation and presumption that I attempt to discuss it.

The inter-relationships of maternal and fetal physiology implies a symbiotic relationship between the fetal and maternal organisms and opposes the parasitic relationship.

For the purpose of discussion, I shall not distinguish between the embryonal and fetal stages of gestation because from the standpoint of symbiotic relationship it would be a distinction without a difference.

Every normal female of the human species from the beginning of ovulation in puberty until its ending with the menopause is a potential and physiological candidate for motherhood.

Every lunar month she involuntarily but physiologically prepares to begin the primary function of her being and is conscious of being normal.

However if fertilization of the ovum and implantation takes place, new and increased physiological processes begin and the time lock upon the flood gates of menstruation fails to open. No new hormone from the embryo is known, yet some exciting factor emanates from it that stimulates immediate activity in all endocrine bodies of the maternal organism, and brings into control an *office of production management* that is a marvel of dispatch and efficiency.

It seems that this exciting factor, just mentioned, is merely the contact of the fertilized ovum with the endometrium which is sensitized by an active corpus luteum, causing a transition of some of the endometrial cells into decidual cells and through their cooperation with the chorion at the point of contact, the placenta is formed. In the entire process of gestation, I believe the deciduo-placental tissue is the only newly differentiated tissue peculiar to the process of reproduction. Also it is only through the placenta that any inter-relationship can be transmitted.

The Ashheim-Zondek test for pregnancy heralded to the modern medical world, the earliest evidence of a physiological relationship between the fetal and maternal organism. Historically, however, priority for the discovery of the growth principle in the pregnancy urine is anonymous in antiquity for Ashheim (1) is quoted as stating that "the diagnosis of pregnancy by means of urine is a very ancient practice — that in an Egyptian papyrus some 3,000 or 4,000 years old it is directed that should a woman wish to know whether or not she is pregnant she should place some earth and barley in a vessel and add a little of her urine each day. Should the barley grow she is pregnant." Verily, there is nothing new under the sun, but this test did reveal the growth principle in the anterior pituitary-like substance and establish an inter-relationship between fetal and maternal physiology. That the initiation of it emanated from the embryo and not from the maternal endometrium, we have long known, for the fertilized ovum can establish an ectopic contact upon the maternal peritoneum and at that point of contact a placenta develops.

Until the fourth month of gestation the fetus must depend, so far as we know, upon the maternal organism for its hormones and its chief physiological processes of circulation, metabolism and elimination, while the maternal organism is furnishing the supplies which include foods and hormones and carrying away the embryonal waste.

Then when the fetal endocrine bodies begin functioning and its vital organs such as the liver, pancreas, spleen, kidneys, etc., begin to assume their responsibilities or activities, the maternal physiology must modify its actions accordingly. What this modification might be I believe no one could say, however we do know that, and I quote from Best and Taylor's *Physiological Basis of Medical Practice* (1), "A hormone is a chemical substance which having been formed in one part of the body is carried in the blood stream to another organ or tissue and influences its activity," and; "apart from small amounts which may be held in the endocrine organs themselves, hormones are

*Read before the Section on Obstetrics, Annual Session, Oklahoma State Medical Association, May 21, 1941, in Oklahoma City.

not stored in the body," also "a hormone does not stimulate the organ that secretes it, thyroid extract, for example, does not stimulate the thyroid, and the ovarian hormones do not stimulate the ovary directly."

Pathological physiology and toxic conditions in the mother reflect upon the physiology of the fetus and vice versa.

For example diabetes in the mother furnishing a high sugar diet causes a hyperinsulinism in the fetus and a consequent hypoglycemia.

The same effect on the fetus in a normal mother may result from the intravenous administration of glucose over a period of days.

Therapeutically we have learned that large doses of the various hormones have an inhibitory action upon the organs that produce them, even in some instances causing atrophic processes in them. Hence it is a delicate adjustment that measures the amount of the hormones from the mother that will properly meet the needs of the developing fetus.

The most recent research work indicates that the cause of the late (2) toxemias of pregnancy, whenever discovered will be found to be a conflict in the inter-relationship of the maternal and fetal endocrines as they involve the metabolic processes of the fetus, and, as has so long been suspected, the placenta which is the transfer depot between the fetal and maternal organisms.

As previously mentioned, placental tissue is newly differentiated tissue peculiar to the process of reproduction. Like the scaffolding constructed for the purpose of carrying and placing of materials in a new building, the placenta is constructed of tissue and in a manner to last only for the period of emergency, which in the case of gestation is 40 weeks and in that time there is considerable wear and tear upon its tissues so that there is macroscopic evidence of degenerative changes which have been going on, we know not, for how long.

Every one who has practiced obstetrics has observed infarcts and calcium deposits in placentas and wondered why they occurred.

Pathologists tell us that there are microscopic evidences of degeneration in all placentas.

Hunt, Patterson and Nicodemus (2) one year ago reported that from a clinico-pathological study of 180 pregnancies and experimental work, their conclusions were that placental infarcts and degenerating placental tissue liberates autolysates which, if massive, or if renal function is poor, will produce severe late toxemia and eclampsia. Also that hypercholesterolemia of pregnancy is

due to a subclinical hypothyroidism that becomes exaggerated due to the increased metabolism for pregnancy and the eclampsia is primarily due to a fetal hypometabolism which is secondary to a maternal hypothyroidism.

Summed up, their work has shown that hypothyroidism in the mother produces hypothyroidism in the fetus, and that results in fetal hypercholesterolemia and the excess cholesterol produces the degenerative changes in the placenta, which liberates the autolysates which causes the late toxemias of pregnancy.

This coincides with the clinical observation, that the chunky phlegmatic type of blonde is a potential eclamptic for they frequently have a low basal metabolic rate and high blood cholesterol.

Fruhmann (3) in discussing endocrines, states that "Estrogens which occur naturally in the human being are sterols, and to this group belong cholesterol, the bile acids, ergosterol, calciferol and androgenic substances." He mentions estrone, estriol, and estradiol, and then observes that, "the fact that these compounds are very closely related chemically, and one may be converted into the other, may prove of vital importance in determining the mechanism concerned with the metabolic processes of the physiology of reproduction."

It is interesting to note that it has been shown that cholesterol is not transmitted from the mother through the placenta to the fetus (4) but is produced in the fetus itself in direct proportions as the cholesterol in the mother's blood. Clinically this hypercholesterolemia accompanies hypothyroidism and a low basal metabolic rate and hypothyroid mothers are prone to have larger or fatter babies.

Thyroid extract administered to these mothers will reduce their hypercholesterolemia and also the weight of the baby.

The study of the inter-relationships of fetal and maternal physiology reveals that the activators of all life processes are the hormones produced by the endocrine bodies. They produce living chemistry — bio-chemistry and bio-physics.

Although, in the past 20 years an immense amount of research work has been done to solve the problems of endocrinology, metabolism, etc., as applied to the physiological processes of reproduction, the clinician or practitioner who tries to make a practical application of this new found knowledge finds himself in wonderland.

If he be philosophical, he will ask: How does the growth hormone, so abundant in the circulation of the pregnant woman, stimulate growth in the fetus while the woman does not grow in stature?

What causes labor pains to begin? Does this signal come from the fetus or from the mother?

Why does a tuberculous woman, when she becomes pregnant, apparently take on new life and even in some cases where the disease is in an advanced stage, give birth to a healthy, well developed infant?

In abruptio placenta, only what disaffection between the maternal and fetal physiology can, like an explosion, separate the placenta, burst the uterine blood vessels and tear asunder muscle fibers in the musculature of the uterus?

These are some of the questions that in the light of the results of clinical and experimental research now going on, may soon be solved.

As clinicians working in hospitals with pathologists and laboratory technicians even though not classed as research hospitals, we have frequent opportunities to learn more about gestation. For example, autopsies

upon feti from abortions and premature stillbirths. Also cord blood studies afford an opportunity to gain more knowledge of fetal physiology both normal and pathological.

Study of the cord blood in every case of eclampsia, comparing it with the mother's blood at time of delivery.

Then there is the placenta. Of course, there are many reports on placental examinations, but as it is the intermediary between maternal and fetal physiology, a careful examination is made, both structurally and chemically in all cases of pathology, either in the fetus or mother; such examinations may solve some of the perplexities of gestation.

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Modern Chemotherapy in Otorhinolaryngology and Ophthalmology*

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A survey of the literature shows that there is available a large number of publications on the uses of sulfonamide and its derivatives in ophthalmology and otorhinolaryngology. There are more than 500 articles dealing with the use of this drug in cases of oto- and rhinogenous sepsis and meningitis. More than 100 discuss the value of this drug in cases of trachoma and there are another 100 on the value of the drug in gonococcal ophthalmia. This paper is more or less a statistical recapitulation. Acknowledging the fallibility of statistical studies, one cannot fail to conclude that the result obtained from such an extensive survey, is not coincidence.

For many centuries it was the great desire of many physicians as well as of many quacks to find an omnipotent remedy, and antidote, which would be effective against all poisonings and diseases. Since the discovery of the pathogenic germs, this desire changed but slightly. It became the aim of therapeutics to find a drug that would kill all bacteria, a drug which could be called The Great Sterilizer.

Up until EHRLICH'S time there were but

a few naturally occurring chemical compounds such as quinine, emetine, etc., which could be successfully used against certain infections. EHRLICH'S idea was to prepare synthetic compounds against specific types of infections. In 1904, he discovered Trypan Red, which proved to be effective against certain trypanosomata in certain animals.

Since EHRLICH'S discovery, several thousand synthetic drugs have been prepared and clinically tried against spirochaetal and trypanosoma diseases. About 12 compounds were found to be highly specific.

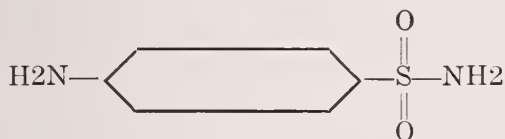
Up to 1932, there was, however, no synthetic drug prepared against such common bacteria as streptococci, staphylococci, pneumococci, or gonococci. In that year, a red synthetic azo dye had been made by two German chemists, MIETZSCH and KLARER, which could cure mice of a fatal streptococcal septicemia. The dye was called first "Streptozone," later named "Prontosil," and has been used at European clinics successfully in human streptococcal infections, but until about 1936 it was practically unknown in the Americas.

Many other azo dyes of the Prontosil family have been found effective against various

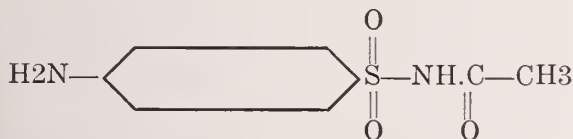
*Read before the Section on Eye, Ear, Nose and Throat, Annual Session, Oklahoma State Medical Association, May 21, 1941, in Oklahoma City.

bacterial infections, and further analysis made by the German, DOMAGK, in 1935 showed that the active substance of all these dyes is paraaminobenzene-sulfonamide, colloquially called sulfanilamide or sulfonamide. Many drug manufacturers began to prepare it, and gave it so many trade names that a great confusion was created among the physicians. Sulfonamide, Streptocide, Prontylin, Sulfamidyl, Astreptine, Septoplix, Lyso-coccine, Prontosil album—all mean the same thing: Sulfanilamide. Regardless of how compound the drugs are, all of them are broken down in the body, and their active ingredient, the sulfanilamide, liberated.

Chemically, the simplest formula is that for sulfanilamide: it contains one benzol ring to which an amino radical ($-NH_2$) and a sulfonamide radical ($*SO_2.NH_2$) is attached in the so-called "para" position.



Albucid differs from this only by substituting the amino portion of the sulfonamide by the acetamide radical, and the drug is called paraamino benzene-sulfonacetamide.



By substituting different radicals, even whole benzol rings, into the original simple formula of sulfanilamide, chemists obtained very complicated compounds such as the aminophenyl dinitro - phenylsulfonamide, which was proved to be effective even against the anaerobe varieties of Streptococcus. The so-called Red Prontosil has two benzol rings and is called sulfonamide-diaminobenzol. The compound known as Prontosil soluble has three benzol rings in its formula. By doubling the sulfanilamide itself in the molecule, the so-called "disulfonamides" were prepared, better known as Diseptal or Uliron; they proved to be especially effective against gonococcal and staphylococcal infections.

Lately, the experiments of the pharmaceutical chemists on the sulfonamide molecule resulted in another synthetic drug, which proved to be specific against pneumococcal infections. This drug is known in the U. S. as sulfapyridine, elsewhere as Dagenan, M & B 693, Ronin, Elektyn. Chemically, it is 2-paraaminobenzene-sulphonyl-aminopyridine.

Another new drug, also a sulfanilamide derivative, is sulfmethylthiazol, which was found to be effective against staphylococcal infections. LEVINE says that it is also a good substitute of sulfapyridine, with less toxicity.

Thus, we have now effective remedies, in fact poisons, against four types of pathogenic bacteria: Streptococcus (sulfanilamide), Staphylococcus (sulfmethylthiazol), Pneumococcus (sulfapyridine), and Gonococcus (disulfonamide, and sulfapyridine).

Though colorless themselves, sulfanilamide and some of its derivatives as sulfapyridine are easily converted to intensely colored dyes. This property has been utilized for colorimetric determination of the concentration of the drug in blood and other body fluids, and such determinations are not only advisable but also necessary because there is no other safe way of administering the correct and efficient dosage of these drugs but by controlling the blood level of the drug constantly. There has to be a definite concentration of the drug in the body in order to kill the bacteria or inhibit their growth. If the dosage is less, the drug is probably more dangerous for the patient than a high toxic dosage.

The laboratory needs about 10 cc of oxalated blood from the patient. Five cc of the blood is then diluted with 35 cc of water, the proteins precipitated with 10 cc of a 20 percent solution of trichloroacetic acid, the mixture filtered, and a measured quantity of the filtrate treated with 1-naphthylethylene diamine, from which a red color of different intensity results, and the intensity of the color gives the concentration of the drug in the body fluid.

The sulfanilamides are rapidly absorbed from the intestinal tract or from the subcutis, and rapidly distributed in the whole body. The sulfanilamide can be demonstrated in the blood within a few minutes; in the saliva, tears, sweat within an hour; in the cerebrospinal fluid within a few hours. Belkows and Chinn of Great Britain show the distribution of sulfanilamide in the various ocular tissues. Ocular tissues are rapidly penetrated by the drug, traces of which are found throughout the eye 15 minutes after oral administration. The rapidity of penetration depends upon the relative vascularity of the tissues; for instance concentrations of sulfanilamide in the various ocular tissues occur in the following order: chorio-retinal-tissues, corneo-scleral tissues, aqueous, lens and vitreous. The maximum concentrations were reached in the corneo-sclera at the end of four hours; in the blood, the aqueous and the vitreous at

the sixth hour; and the lens, choroid and retina at the twelfth hour. After a total of a three gram dose the blood concentration reaches the maximum peak of 40 mg percent in about two hours, but the concentration rapidly falls if there is no successive administration; it becomes 1 mg percent in 24 hours. The drug is partly detoxicated in the liver, but it is chiefly excreted by the kidney, about 100 hours being needed for its complete evacuation. For different types of infections different concentration of the drug is needed in the blood, but for severe infections, and for infections with osseous foci about 10 mg percent of sulfanilamide is necessary. Sulfapyridine is usually maintained at a blood level of 5 mg percent, and sulfmethylthiazol at from 5 to 7 mg percent.

The drug has been sometimes recommended also for local use with the idea of bringing the substance closer to the local focus of infection. MENGEL studied the appearance of sulfanilamide in the aqueous and vitreous, and found that, though there is absorption when the drug is administered in drops into the conjunctival sac, the concentration of the drug is higher after the peroral use of tablets, being about 3.2 mg percent in the aqueous and 1.1 mg percent in the vitreous 32 minutes after taking the tablets, while the eye drops of sulfanilamide could not bring the drug concentration over 0.1 mg percent. Of course, the concentration of the drug will always be less in the eye fluids than in the blood. PINKHOF found that the sulfanilamide concentration in the conjunctival fluid is 60 percent, in the aqueous 25 percent to 30 percent of the blood concentration.

The pharmacodynamic action of the sulfanilamide derivatives is not yet definitely known. Against in-vitro cultures the pure drug itself is relatively impotent. Yet, in the emulsion of the blood or other body fluids it is definitely bactericidal. Many theories have been proposed for the explanation of this mysterious action. It is most likely that the drug exerts only a bacteriostatic action: it inhibits the growth of the invading bacteria, and thereby indirectly increases the patient's resistance. However, there seems to be also a direct stimulating effect upon the patient's body or upon certain of his tissue functions.

The bacteria against which sulfanilamides may be used effectively are the beta-hemolytic streptococci, gonococci, meningococci, *Streptococcus erysipielatis*, *Streptococcus scarlatinae*, pneumococcus (only sulfapyridine), staphylococcus (sulfmethylthiazole). They are rather impotent against anaerobe infections, and against virus diseases or the so-called "intracellular" infections.

Considering the burden put on the liver

and kidney in the excretion of the drug, one should be careful in selecting patients for sulfanilamide therapy. Liver and kidney damage contraindicates sulfanilamide therapy. LEVITT found that a previous x-ray treatment is also dangerous: x-ray always causes some damage to the hemopoietic system, but so does sulfanilamide, and the combination of the two slight damages may precipitate agranulocytosis.

Agranulocytosis is only one of the many toxic effects of sulfanilamide drugs. The toxic effects of sulfanilamide became known first in 1936 in connection with the 76 deaths caused by a vehicle of a sulfanilamide Elixir sold in the United States. The toxic symptoms are:

1. *Gastrointestinal*: nausea, vomiting, desire to defecate after intravenous injection, anorexia from prolonged oral medication, diarrhea, colicky pain. Such symptoms are partly eliminated by the practice of giving 10 grains of sodium hydrocarbonate with each oral dose of sulfanilamide.

2. *Central Nervous System*: Dizziness and headache are very common (TOWNSEND), also depression, mild disorientation, burning sensation, peripheral neuritis, radicular neuritis after intrathecal injections (GRIMAUD), mania;

3. *Respiratory*: Acidosis;

4. *Circulatory*: Cyanosis, sometimes with methemoglobinemia or sulphemoglobinemia, decreased oxygen capacity, cardiac arrhythmias;

5. *Genitourinary*: Albuminuria, casts, cells, hemoglobinuria, porphyrinuria; anuria;

6. *Hepatic*: Toxic hepatitis and jaundice;

7. *Dermatologic*: Purpura, scarlatini-form or morbilliform erythema, photosensitivity, allergy, exfoliative dermatitis;

8. *Hemotopoietic*: A g r a n u l o c y t o s i s (ROBB; MEZZANA, etc.), hemolytic anemia, hemorrhagic aleukia (LEVI);

9. A startling occurrence, to both the physician and the patient, is reported by Bristow. A case of temporary myopia due to the use of sulfanilamide, where the vision of the patient was reduced in the space of a few hours from 20-15 to 20-300. This myopia was apparently the result of a swelling or edema of the lens. There is one other like case reported in literature. Normal vision was recovered and there was no residual defect in both cases. Yet, in spite of the many toxic symptoms and the close neighborhood of toxic and therapeutic dosage, the individual resistance to these drugs may be great. COOPER mentions a patient who took 1,000 tablets of sulfanilamide, without the doctor's

prescription, and without any ill effects (EVANS).

Considering the toxicity of the drug, and the necessity of constant clinical and laboratory supervision during sulfanilamide treatment, the use of the drug should be limited to hospital practice (FOWLER). The experience of many otolaryngologists such as CONVERSE, MAYBAUM, ROSEN, CAMPBELL, CANUYT, and others is against the indiscriminate use of the drug, especially as a prophylactic. They think that it should not be used in minor infections, but should be reserved for truly critical conditions, such as otitic sepsis, thrombophlebitis, labyrinthitis, meningitis, petrositis, and pneumonia. The early prophylactic use of the drug in otitis media is now recommended by many. With potentialities for both good and harm, but largely because of the masking effects, which lead to a sense of false security, administration of these drugs for acute otitis media, with or without symptoms of mastoiditis, is at present controversial. Since the prophylactic dosage is usually small, it may render the bacteria resistant and thus it may predispose to serious complications (CONVERSE). A latent mastoiditis may develop, and it may remain latent and masked by the sulfanilamide (MAYBAUM, ROSEN). CANUYT and CAMPBELL point out that the many toxic symptoms may simulate signs of certain diseases; and may make the diagnosis difficult. Sulfanilamide may cause nausea and vomiting, and one may think that it is due to increased intracranial pressure. It may cause cyanosis and depression, signs of severe sepsis. It very commonly causes dizziness and headache, signs of meningeal irritation. Sometimes a depression and confusion may lead to the false diagnosis of encephalitis. It may also have an antipyretic effect, and thus abolish the one characteristic sign of lateral sinus thrombosis, the septic fever. Indeed, LAW, of New York, found that even the roentgenologist may be misled by the effects of sulfanilamide upon the roentgenogram. I think LAW has brought out a most valuable and pertinent point in regard to the fallacy of x-rays of mastoids that have been taking sulfanilamide. The roentgenologist should be advised at the time the picture is taken, that the patient has been taking sulfanilamide. He suggests also that stereoscopic films would lessen the error of the reports by the roentgenologist, since the picture may become so modified that it shows less bone affection than is actually present.

Sulfanilamides can be given by different routes: orally, subcutaneously, intravenously, intraspinally, locally, subconjunctivally. The dosage should be such and so often repeated that a blood concentration of about

10 mg percent be maintained. There is usually a rather high initial dosage followed by smaller maintenance dosages about every four hours day and night. Experience showed that the simplest and easiest way to maintain a constant blood level of the drug is by means of tablets taken orally. There is a formula by which one can fit the dosage according to the body weight, $\frac{3}{4}$ grain of the drug being needed per pound of body weight given at four-hour intervals for several days, then about $\frac{1}{2}$ grain per pound for some more time.

Others count the dosage in the number of 5-grain tablets. The initial dose is ten tablets on the first day, which will raise the blood level to 10 percent in four hours. This level is maintained by three tablets every four hours on the succeeding days. For children, the initial dose is four tablets on the first day, and the blood level is maintained by one or two tablets every four hours.

Subcutaneous injections have not been very frequently used in our practice. Pron-tosil soluble may be given in 20 cc. amounts at four-hour intervals in a total of 120 cc in a day. For children, one-fourth of these amounts may be sufficient.

Intravenous injections of a one percent solution of sulfanilamide in physiological saline begin with 700 cc initial dosage, followed by 500 cc every eight hours. Such injections have been tried by BUSACCA in the treatment of various eye infections, but with no success.

Intrathecal injections have been sometimes recommended in the treatment of meningeal infections, but they are not much in use. Only small amounts can be given, not more than the spinal fluid withdrawn before the injection.

Locally, sulfanilamides have been administered in the form of powder, spray, lavage, or ointment. The local use does not cause any untoward effect, but also its therapeutic effect is close to zero. MAGGIOROTTI put sulfanilamide powder on the tracheal mucosa, but it did not cause as much reaction as thymol or protargol. ATCHINSON recommended the use of sulfanilamide sprays for nasal and upper respiratory infections, but the effect of such sprays is not evident. BUSACCA showed that in eye diseases the effect of sulfanilamide powder upon the conjunctiva is not more than that of zinc peroxide. He also used a five percent ointment for the treatment of trachoma, without any benefit. The same experience is reported by SCARDACCIONE. Questionable is also whether the ointment or the lavage with sulfanilamide, as recommended by KATTIOFSKY and REIN, have much value in the treatment

of gonorrheal ophthalmia. Indeed, lavage is chiefly for cleaning the eye from gonorrheal discharge, and whether this cleaning is done with boric acid or sulfanilamide it does not matter (LILLIE). MENGEL and PINKHOF discourage the local use of sulfanilamide derivatives as of no value.

Subconjunctival injections of a five percent solution of neoprontosil have been used successfully in the treatment of various eye affections by several ophthalmologists. ROGENKAMPER saw benefits in corneal ulcers, and BUSACCA found that acute trachoma and its corneal complications were improving from such injections. PATON, of New York, recommends a dosage of 0.3 to 0.5 cc every other day, but he also likes to combine such injections with the oral use of tablets.

As mentioned before, the real dosage is determined by blood chemistry, and the safety of the patient is determined by blood pictures, count of leukocytes, and hemoglobinometry. These chemical and clinical tests should be made every other day (BARBOUR). The efficiency of sulfanilamide therapy can be seen in not more than two to three days. If sulfanilamide acts, it will act promptly, and there is no need to experiment longer than three days according to BURCKHARDT.

The final cure is shown by bacteriological tests. The proof of cure is a negative smear from the site of infection, and repeatedly negative broth cultures several days after the discontinuation of sulfanilamide medication. The clinical improvement does not mean a final cure, and it is necessary to continue the medication with reduced dosage. It is especially in the presence of bone lesions (otitis, mastoiditis, osteomyelitis) that one should not be deceived by the clinical improvement. The sulfanilamide medication in such cases was often followed by the reappearance of infection, and bacteria. For such conditions the best rule is to continue treatment with sulfanilamide for at least two weeks after the clinical cure (CONVERSE, ROSENWASSER, etc.)

In treating of infections of the organs within our field our chief aim has been to drive out the bacteria, and the infectious matter which contains them, from the body. For this purpose we have been employing drainage in all its modifications, lavage, and surgical removal of useless infected tissue. Against the infection itself, we had blood transfusions, serotherapy, and vaccines at our disposal. The success of chemotherapy does not mean that all of the older methods of treatment should be discontinued. Chemotherapy has its limitations, especially in otorhinolaryngology.

Many of these infective bacteria produce pus, and necrosis, and for the removal of pus, or necrotic debris we need surgical measures. Many of the inflammations become chronic, productive, and proliferative, and it would be unreasonable to expect that sulfanilamides will wipe away the surplus of tissues. Even in ophthalmology, the general experience with sulfanilamide in the treatment of trachoma was that the nodular and follicular changes are not altered by the drug. Hence, the correct way to look upon chemotherapy is to appreciate it as an adjuvant but not as a panacea. I do not think it logical to condemn a therapeutic measure of known value, for use in minor infections that lead to serious complications, when this is of proven value, in the serious complications. Its value should be acknowledged, and a precaution given as to its possibility of masking symptoms. We may use these drugs for lessening the incidence of complications, or for controlling metastases in sepsis, for limiting the inflammation in diffuse infections, or for the avoidance of postoperative complications (HEBBLE). But we meet with certain failure if we do not take care of the focus of infection surgically.

One of the first in this country to use sulfanilamides on otorhinolaryngological conditions was TOBEY in the late 1936. Literature on the subject began to accumulate rapidly after January 1937, but much of the early literature is skeptical since there was much failure owing to inadequate and empirically chosen dosage of these drugs. In ophthalmological conditions the sulfanilamides made their first success in late 1938. Today, there is probably no eye, ear, nose and throat condition caused by infection of some kind in which sulfanilamides would not have been tried. A cursory glance upon the tremendously increased literature of this subject will suffice.

Bacterial carriers proved to be resistant to chemotherapy according to the experiments of HOYNE.

In cases of *brain abscess*, chemotherapy together with serotherapy is just an adjuvant of surgical treatment (HUBERT, SJOBERG, HAMBY).

Bronchitis of children was treated with sulfapyridine by VASILE. Yet, there is not sufficient evidence for the usefulness of the drug in this condition.

Common cold is probably not an indication for sulfanilamide. ELYAN says that hot water works as well against common cold as do the sulfanilamides. ATCHINSON, however, claims 100 percent success. We may probably follow the advice of BLANKENHORN, who uses sulfapyridine in common colds for the prevention of pulmonary com-

plications. Common cold is a virus disease, but its complications are due to secondary bacterial invasion. Therefore, the use of sulfanilamides has some justification.

Conjunctivitis, if caused by streptococcus, may improve under sulfanilamide therapy (SYKES).

Corneal conditions such as Mooren's ulcer or ulcer serpens, whose etiology is unknown, will benefit from sulfanilamide or sulfapyridine. The improvement is rapid, and the ulcer heals with a very fine cicatrix (BLAESS, ROGGENKAMPER, SZINEGH).

In *Cranial osteomyelitis*, as seen mostly after frontal sinusitis, chemotherapy should be an adjuvant of the usual extensive craniectomy (DROESBEQUE).

In *esophageal* conditions, as far as we know, chemotherapeutics have not been used. Millett, of Hempstead, New York, reports a case, the first in the literature, where sulfapyridine was used successfully in the treatment of pneumococcus, type 19, ophthalmia.

Various *eye diseases*, chiefly conditions of the anterior segment, have been treated with sulfanilamide and its derivatives (PATON, SWAN). As a prophylactic they can be used in perforating eye injuries (CECCHETTO). It has been reported that sulfathiazol powder quickened the primary union of supraorbital wounds (GREENS' EYE HOSPITAL). CASTELLI used these drugs in chronic dacryocystitis, and lacrimal fistula, but sulfanilamides could not cure these patients.

Many authors have reported favorable results in the treatment of *pharyngitis*, *laryngitis*, and *acute cervical adenitis*, however CAMPBELL found that they are of little value in acute laryngitis of children. BAJKAY reported failure in laryngeal phlegmone and mediastinitis, but some improvement in laryngeal edema and peritonsillar phlegmone; of course, surgery was still necessary.

The greatest success of sulfanilamide is in combating bacterial *meningitis*, either streptococcic or pneumococcic. A survey of the literature shows that for 35 years previous to 1937, only 76 recoveries of streptococcic meningitis are recorded. In approximately two years time, there have been well over 200 recoveries recorded of streptococcic meningitis with the aid of sulfanilamide. One-third of the literature of sulfanilamide is devoted to the description of successfully treated meningitis cases. Cures have been reported by many, and the reports on larger series of patients show that the mortality of this dreaded complication of our field has been reduced by sulfanilamide from 95 percent to about 50 or 60 percent. Yet, the consensus of opinion is that sulfanilamide is not sufficient. (JACOBIUS, MAGNUSSEN,

ROSENWASSER, HUBERT, PHILIPSON, ETC). Removal of the primary focus of infection is necessary (CAWTHORNE). The classical surgical interventions are still of full value: mastoidectomy, with craniectomy and decompression by trephining (CANUYT). Since about 50 percent of otogenous meningitis is caused by petrositis and purulent labyrinthitis, about 50 percent of our surgery will be on the petrous bone (PIETRANTONI). We should not forget that there are still many reports of success from surgery combined with other time-approved measures such as blood transfusions, or serum therapy (BRUNNER). Similarly in *sepsis*, the removal of the infective focus is the most important (HOFER). Surgery on the jugular vein, or an abscess tonsillectomy, as well as general good nursing, feeding, and parenteral fluids did not lose their value. There are still many reports that patients died from sepsis in spite of sulfanilamide therapy (HOFMANN, D'ARCY).

In infections of the mouth floor (Ludwig's angina), where hemolytic streptococcus may play only a partial role, sulfanilamide therapy seems valuable when used as an adjuvant of other measures such as drainage and tracheotomy (WILLIAMS).

In *nasal sinus* diseases, due to beta hemolytic streptococci, pneumococci and staphylococci, relief of pain and drainage are still necessary in spite of the few successes reported from the use of sulfanilamides in acute infections (ORTON, WILLIAMS). Oral administration of the drug is recommended by a few. Locally, after irrigation of the antrum, the drug may be beneficial (GREENS' EYE HOSPITAL). In chronic sinus, reports have been discouraging.

In *gonorrheal ophthalmia* the success of sulfanilamides is unparalleled. The clinical improvement noted after the administration of sulfanilamide, is frequently dramatic; in 24 hours time there is usually a definite improvement. Even if there is ulceration of the cornea, Bailey and Saskin, of Brooklyn claim a most gratifying result. The hospitalization of the patients is greatly shortened, and, according to LILLIE, the average stay in the hospital at Philadelphia is now about from two to five days. The drug is best used perorally, and in combination with the old routine treatment—lavage—(VEIL, SIE BON LIAN, ULRICH, JENSEN). BARBOUR recommends that large doses should be given so as to keep the blood level at 10 mg percent. Several authors experimented with sulfanilamide eye drops, or lavage, or ointment (REIN, KATTIOFSKY, HELMAN), but with such method of administration the cure does not come so quickly. Either sulfanilamide, or sulfapyridine can be used, but sulfapyridine gives more strik-

ing results. The drug treatment should begin at the earliest stage of gonorrheal ophthalmia, before any corneal complication sets in. According to Van Lint, in a case of chronic gonorrheal ophthalmia treated with sulfanilamide and anti-gonococcic vaccine, an acute iritis developed, followed after a few days by complete cataract. In treating gonorrheal ocular complications one should not employ sulfanilamide and shock (vaccines, milk injections) simultaneously.

Houser of Philadelphia, submitted a questionnaire to each member of the American Otological Society; to five additional otolaryngologists in each state of the Union; to 15 otologists in Canada; and to about 150 outstanding members of the American Academy of pediatrics. The results of this questionnaire showed: 1. Almost 90 percent of the physicians co-operating in the survey are using sulfanilamide in the treatment of acute otitis media. 2. Sixty percent of the pediatricians and otologists, who have had experience with sulfanilamide, believe that its use reduces the incidence of acute surgical mastoiditis (SELETZ, VAISBERG, MAYBAUM, HIRST, HORAN). 3. The majority believe that if used, it should be used early, before mastoiditis has had a chance to develop; 58.5 percent use the drug, before the results of the cultures are secured. 4. In a series of 9,667 cases, a mortality rate of 0.041 percent, or one death in 2,417 cases were reported. The chief advantage of sulfanilamide in acute otitis is that one can safely wait. Previously, one was often forced to make an early mastoid operation, which is not to be recommended generally (DAGGETT). Success of sulfanilamide prophylaxis, of course, depends on the type of bacterium, and HENRY showed that about 47 percent of his series would have no benefit from sulfanilamide or sulfapyridine; only 37 percent were streptococcic infections, and 12 percent pneumococcic infections. In DUGGAN'S series, only 11 of 106 cases needed operations. HEBBLE made the rule that if the patient's ear has been discharging for less than four weeks, continuous sulfanilamide therapy throughout several weeks is still feasible. If the otorrhea is over four weeks, sulfanilamide treatment should not delay surgery for more than 10 or 14 days. BOSSEL found that sulfanilamide was excellent also in scarlatinous otitis, and its use resulted in complete restoration of hearing. SIMARD recommends sulfapyridine for treatment of otitis in children. Sulfanilamides have not been used for the treatment of chronic otitis.

Petrositis is a disease in which sulfanilamides should be always tried according to CAMPBELL, since the operation is rather

difficult, and everything should be tried to avoid it.

For *pharyngeal* lesions, especially for acute ulcerative pharyngitis, sulfanilamides were recommended by McLAURIN.

Slight improvement followed the use of sulfanilamide in one case of *sympathetic ophthalmia* (COLENBRANDER), but one success does not prove anything.

In *tonsillitis*, sulfanilamides proved to be beneficial (PERKINS, BURCKHARDT). Small doses, three tablets a day for two to three days, may be taken, and after cessation of fever, the dose should be reduced to two tablets a day for three to four days. The reports show that almost all types of acute tonsillitis are favorably influenced by the drugs. Houser and Fitz-Hugh of Philadelphia even report a post-tonsillectomy pulmonary abscess, aborted with sulfapyridine.

Another important disease in which the beneficial effects of sulfanilamides are evident in *trachoma*. Most investigators agree that the course of this disease is affected favorably by the use of sulfanilamide. The sulfanilamides lessen conjunctival redness, cause the discharge to disappear, wipe away corneal lesions such as pannus, heal corneal ulcers, relieve the patient from photophobia, lacrimation, blepharospasm in a short time. Forster, at the Theodore Roosevelt Trachoma School, at Fort Apache, Arizona, found that 50 percent of all the children of school age at the White Mountain Apache Indian Reservation, were afflicted with trachoma. In the past, before sulfanilamide was included in the treatment, it took an average of two and one-half years to arrest the trachoma. He reports as follows: Of the 167 children treated with sulfanilamide, the pathology in 125 became arrested within 30 days of the beginning of the treatment. The remaining 42, in whom conjunctival and corneal activity was still present, were given a second course, and as a result, the disease became inactive. Definite improvement was seen consistently within ten days of the beginning of the therapy. Generally, Stage II of trachoma is quickened into Stage III within a week, and Stage III quickly progresses to cicatrization. It is claimed that satisfactory cure is obtained in three weeks (JASSERON, TOWNSEND) in more than 90 percent of the patients (JUNIOR). As stated previously, it has been said that the nodular type and follicular type of trachoma is resistant to sulfanilamide (SCARDACCIONE), but VANCEA found that, if very large doses of the drug are used, the conjunctival granula will disappear in three months. Whether the virus is also destroyed is not so certain. Indeed, MacCALLUM asserts that the good results of chemotherapy in trachoma are due

to the cure of the secondary infections only, and not to a cure of the virus disease itself. Yet, THYGESON noted that the quickest response to chemotherapy was obtained in cases without secondary bacterial infections. He also found that monkeys treated with sulfanilamide became immune to experimental trachomatous infection. But, even in trachoma, the sulfanilamides cannot replace surgery. Julianelle, St. Louis; Lane, Albuquerque;

Whitted, Gallup, New Mexico; Brown and Herrell of Rochester; Lee and Rottenstein of Shanghai and others have reported their investigations favorably in regard to the use of sulfanilamide in the treatment of trachoma.

Cavernous sinus thrombosis, bactremia and erysipelas are some other conditions mentioned in case reports in which the use of sulfanilamide has proven of value.

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Pre- and Post-Operative Management of Hyperthyroidism*

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Surgical thyroid is as different in its various clinical manifestations as it is in its pathological appearances, and, in considering pre-operative preparation, the response

will vary, depending upon the class of thyroid one is considering. The adenomatous thyroid should not be permitted to develop to the point of a very great toxicity, or pressure, or evidence of malignancy, as early removal does no necessitate much pre-operative

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preparation, and surgical mortality is low. When the adenomatous gland becomes toxic, there will be a superimposed exophthalmia and frequent cardiac changes. On the other hand, the exophthalmic type of hyperthyroidism responds much more favorably to pre-operative preparation.

There is no such thing as an emergency thyroidectomy. The thyroid patient must be considered individually, and therapeutic measures must always be undertaken with this in mind. When the surgeon has made his decision that a portion of the gland must be removed, the problem then becomes one of deciding whether a ligation, or lobectomy, or sub-total thyroidectomy should be done. Pre-operative preparation can then be carried out in such a way that the operation can be done as safely and completely as possible, protecting in every way the physiologic and biochemical processes, which are altered by metabolic upset, by lowering the metabolic requirements of the patient and restoring to a normal level physiologic and chemical functions that have been greatly altered by the progress of the disease.

Pre-operative care may be divided in three phases: (1) Rest, (2) Administration of iodine, and (3) Diet.

Rest: Fatigue is one of the prominent symptoms of the patient with toxic goiter. Rest in bed becomes the most effective physical rest and is an important pre-operative measure because of the lowered caloric requirements on the part of the body and the protection of the muscles from fatigue, and, finally, because of the relief from the burden thrown on the cardio-vascular system by this unusual relation between muscle exertion and volume of blood flow. Besides physical rest, great care must be taken to provide the patient with mental relaxation. He should be placed in a cheerful room or ward, well away from patients who are seriously ill or who would tend to cause depression or excitement. Visiting friends and relatives should be selected with great care and visits made extremely short. Detailed discussion of the patient's condition should be avoided in his presence, as the remarks are frequently misinterpreted and cause great concern. When the patient's emotions become more stable, he should be informed, in a casual manner, that it is planned to remove the thyroid gland sometime in the near future, but statement of the exact date of operation should be avoided, lest it cause worry. There is nothing more detrimental to the welfare of the patient with toxic thyroid disease than the administration of epinephrin, either by the physician or spontaneously by the patient through excitement of his emotions. The most satisfactory sedatives are the barbitur-

ates, such as $\frac{3}{4}$ gr. phenobarbital three times daily; if this is not tolerated well, small doses of chloral hydrate and bromide mixtures have proven favorable.

Administration of Iodine: Since the introduction of iodine, much credit is due PALMER, KIMBALL, and BOOTHBY for their splendid work in this field. Many patients who were previously considered inoperable can now be treated surgically, and the frequency of post-operative complications has been greatly reduced. Lugol's solution should be given in 1 c.c. doses three times daily over a period of from five to fourteen days, depending upon the severity of toxicity. During this period the pulse and metabolism are greatly reduced, and the patient gains weight and becomes confident of future well-being. The thyroid gland becomes less vascular and firmer to palpation.

Diet: Every patient with toxic thyroid disease presents a nutritional problem which is much greater in the more toxic and older patient, as the tissue breakdown exceeds the ability of the body to rebuild; the lower this reserve, the greater the operative risk. With the increase in the metabolic rate the caloric requirement is many times greater than that of a normal person. This caloric requirement should not only be maintained but should also be supplied to build up the depleted reserve. The need of carbohydrates in the thyrotoxic person is excessive, due partly to the increased consumption resulting from increased metabolic demand and partly to loss of glycogen as the result of epinephrin effect. Carbohydrate depletion can often be demonstrated in the liver, and much work is being done in blood and urine chemical tests, such as the liver function hipuric acid test, which greatly aids in determining the safest stage for operation. The patient's diet must contain a considerable amount of carbohydrates, such as large quantities of well sweetened fruit juices. In the more toxic patient intravenous solutions of ten percent glucose and a well balanced general diet, particularly one containing Vitamins A, B, and C, are of benefit. It has been considered that Vitamin A in cases of thyroid disease is related in some way to metabolism of the liver and, in particular, to glycogen metabolism. When the metabolic rate is increased considerably, as it is in patients with toxic thyroid disease, the ordinary balanced diet is insufficient in Vitamin B to take care of the body needs, and it should be administered pre-operatively with Vitamin C, as patients with toxic goiter show a level of Vitamin C in the blood that is much lower than normal; pre-operatively given, Vitamin C restores this level, increases the tone of the involuntary muscles, and aids in wound healing.

When the patient is considered to be in the best stage for operation, a well-selected, special nurse should be placed in attendance and immediate pre-operative care instituted, as follows: Give a large dose of phenobarbital at bedtime the night preceding operation, to be repeated during the night as necessary to obtain relaxation; 3 c.c. of Lugol's solution in fruit juice early the morning of operation; phenobarbital, 3 gr., two hours before operation, and pantopon, 1/3 gr., with scopolamine, 1/100 gr., one hour before operation. With this preparation the operation can be well carried out under local infiltration. The post-operative reaction will depend greatly upon the extent and length of operation and the amount of nerve trauma.

In the case of a patient with exophthalmic goiter, it is most essential, when he has returned from the operating room, that iodine be given at once and continued in sufficient dosage to control all symptoms of toxicity; when it is not tolerated well by mouth, it should be given by proctoclysis, or by subcutaneous route, or even intravenously. Also repeated doses of pantopon should be given, sufficient to make the patient comfortable, along with forced fluids and carbohydrates. It is frequently necessary to give ten percent glucose intravenously to hold up the metabolic carbohydrate requirement. As a rule, the usual case of exophthalmic goiter responds favorably to this. The patient with an adenomatous toxic thyroid frequently responds favorably for the first two days and then the pulse becomes more rapid, the temperature increases, and tremor is much more noticeable; although this type of patient does not respond so well to iodine, it should be given in smaller doses, and one ice pack used for each degree of temperature, along with subcutaneous saline, cool enemas, and oxygen.

During the convalescent period one should make every effort to encourage the patient to gain weight and strength. If the exophthalmic goiter patient fails to do this, one may expect a persistence of the disease and, later, development of a recurrence.

In the case of a toxic adenoma, the use of iodine may be discontinued in a few days, as recurrence rarely develops. If it does develop, the surgeon is apt to have overlooked the removal of all the adenomatous tissue. In Graves' disease, however, iodine should be continued in small doses for at least three months, with high caloric diet, tonics, and vitamins. The patient should be kept under close observation for the possibility of recurrence and for symptoms of deficiency in thyroid function such as overweight and evidence of myxedema. The giving of iodine for a period of three months will avoid re-

currence, and if symptoms of deficiency become evident they may be easily controlled by the use of thyroid extract under close observation. The care of the heart in both types of goiter is important, and, especially in the older patient, with the adenomatous type, it is advisable to give digitalis both pre-operatively and post-operatively. In order to obtain the maximum benefit, it is necessary to have close cooperation of the patient, the family physician, and the surgeon over a period of a year to obtain better results with fewer recurrences.

CONCLUSIONS

1. It is important to classify definitely the type of goiter with which one is dealing, as the response to preoperative treatment will vary.
2. It is necessary that psychological management and treatment be administered on the part of the family physician, the surgeon, and the hospital attendants.
3. It is important to evaluate laboratory aids, such as the metabolism test, blood and urine chemistry tests, in the determination of the safest stage for operation.
4. It is important that the patient remain under the close observation of his family physician or the surgeon for a period of the first year.

Timely!

Vitamin B1, not stored by the human body in adequate quantities, is available at every meal, in



Contains more than 600 International Units of Vitamin B1 per loaf. Also all the other vitamins found in wheat.

• EDITORIALS •

HEPARIN AS A PROPHYLACTIC IN PULMONARY EMBOLISM

Pulmonary embolism is a condition which should interest every doctor. It rarely occurs in children. Because of the nature of its origin, it is more frequent after the age of forty.

It should be remembered that pulmonary embolism is not necessarily dependent upon operation of trauma. Less than fifty percent of Plewes (1) cases were hospitalized. Thrombophilia may represent a deficiency in antithrombin or heparin in the blood. This is suggested by the finding of gallbladder and liver disease in sixty percent of cases autopsied. Slowing of the rate of venous flow is an obvious factor. Twenty-five percent of Plewes (1) cases were hospitalized because of heart lesions, and fifty percent of the autopsied cases showed heart lesions. In fifteen percent of the latter, embolism resulted from a mural thrombus in the right heart. Though less than fifty percent of his cases were post-operative, the mortality was relatively higher in this group.

Contributing postoperative factors are the immobilization of the patient, low blood pressure following major operations, anesthesia and sedatives. All tend to slow return circulation and predispose to venous thrombosis. Spinal anesthesia disturbs circulation and is followed by a high incidence of pulmonary embolism. Fifty percent of post-operative cases of pulmonary embolism developed in the first week, but the time of onset varied from one to fifty-seven days.

Embolism is rare in cases not confined to bed. Heparin (2) normally found in the mast cells of connective tissue in the human body, is supposed to behave like a hormone, lessening the coagulability of the blood and thus reducing the danger of venous thrombosis. This action, though unknown until recently, is most important. Embolism is always preceded by venous thrombosis, consequently the prevention of spontaneous venous thrombosis represents the only prophylaxis against embolism.

Heparin can be extracted from the liver and lungs of cattle (2). Charles and Scott (3), working with Best of Toronto, obtained a sufficient quantity for chemical tests and clinical experimentation. After several years of careful production of heparin, exhaustive experimental studies and clinical tests, it has been shown that intravenous use of this substance produces no ill effects and that so given, in proper dosage at stated intervals, it is of great prophylactic value. If given

before or during operation, it predisposes to postoperative hemorrhage, but if the first dose is given four hours after operation, this danger is obviated.

In the light of statistical studies (2), this prophylactic procedure should be considered in every surgical case where age and other predisposing factors suggest the danger of venous thrombosis and embolism. At the present time, the high cost of this valuable agent may be prohibitive for some patients.
—L. J. Moorman.

- (1) Plewes, Burns. *Canad. M.A.J.* 41:271-274, Sept., 1939.
- (2) Crafoord, Clarence, and Jorpes, Erik: *Jr. A.M.A.*, Vol. 116, No. 26, June 28, 1941.
- (3) Charles, A. F., and Scott, D. A.: *J. Biol. Chem.* 102:425, 1933; Scott, D. A., and Charles, A. F., *ibid.* 102:437, 1933.

PONTINE DUCKS

In the days when all rulers feared death from poisonous potions secretly administered, they not only kept court tasters, but large botanical gardens in which they grew medicinal and poisonous plants and shrubs. The latter were for the concoction of antidotes and occasionally for experimental purpose.

"Attalos III, Philometer of Pergamas, who lived in constant anxiety from the machinations of his enemies, cultivated with his own hands poisonous plants . . . in the royal gardens, 'collecting the juice and fruit to study their powers,' in order to gain familiarity with the effects of poisons and to discover antidotes he instituted experiments upon criminals." (1)

It was in this period that Erasistratas and Herophalas of Alexandria were permitted to dissect the bodies of criminals for the study of living anatomy and physiology.

It is reported that Mithradates, King of Pontos (2) compounded an universal antidote containing fifty-four ingredients from his garden. His Pontine ducks had been fed on various poisons until they had become immune. Not fully trusting his antidote, Mithradates mixed with it the blood of his immune ducks. A remarkable demonstration of insight, which antedated Dr. Henry Sewall's immunization of pigeons with rattlesnake venom by approximately 2,200 years.

These rulers were driven to the task of research by an abiding apprehension. Dr. Sewall was imbued with a thirst for knowledge.—L. J. Moorman.

- (1) Max Neuberger. *History of Medicine.* Oxford Univ. Press, 1910. P. 193.
- (2) Max Neuberger. *History of Medicine,* Oxford Univ. Press, 1910. P. 193.

• *THE PRESIDENT'S PAGE* •

When this goes to press, the vacation season for the year will have about ended. Those who have been fortunate and wise enough to avail themselves of a respite from their daily duties will have returned to their offices. With each new year every doctor must assume additional obligations. The requirements of this rapidly changing age are such that we have no opportunity to halt, for if we do, the procession will pass us by.

Our profession, along with all other activities, is undergoing changes and if we are to escape being left behind, we must lead the procession and direct the changes.

The future of medicine in our country is so threatened that we must practice eternal vigilance and not allow ourselves to be lulled into a sense of false security. Those who are constantly endeavoring to attain professional standing which they have not earned and those in our profession who are willing to prostitute this honorable profession for personal financial gains adhere to the doctrine of falsification and distortion, add and subtract, twist and warp facts with the rapidity of a whirling dervish. Organized American Medicine will meet these challenges in the good old American way.

It is a very satisfying feeling to see the fine spirit of cooperation our government is receiving from the medical profession in the present emergency.

At a time when thorough preparedness means so much to the welfare of the nation and to the life of democracy itself, American Medicine is proud of this opportunity to participate wholeheartedly in this great National Defense Program.

A handwritten signature in dark ink, reading "Finis B. Hewing". The signature is written in a cursive style with a large, sweeping flourish at the end.

President.

ASSOCIATION ACTIVITIES

SPECIAL COMMITTEE MEETS WITH WELFARE DEPARTMENT

In line with the adoption of the Council's report by the House of Delegates, Dr. Finis W. Ewing, President, Muskogee, has recommended to Mr. Jess Harper, Director of the Public Welfare Department, the names of Dr. A. R. Sugg, Ada, Dr. R. M. Shepard, Tulsa, Dr. Clinton Gallaher, Shawnee, and Dr. F. Redding Hood and Dr. C. H. Rountree, both of Oklahoma City, for appointment by the Director as a Medical Advisory Committee to the Department.

The Public Welfare Department, which is charged with the responsibility of administering among its many activities the Aid to Dependant Children fund, requested assistance from the Association in the form of an Advisory Committee for the purpose of more adequately ascertaining the physical disability of the parents of the children making applications for assistance.

The first meeting of the committee was held July 20, at which time a conference was held with the officials of the Public Welfare Department, and a preliminary survey of the activities of the committee discussed.

Dr. C. H. Rountree was named Chairman of the committee, and the next meeting will be held August 3.

STATE INSURANCE FUND REPORTS EXPENDITURES

The following report of the operation of the State Insurance Fund is of extreme interest to the profession because it gives a clear and concise picture of the operation of the fund during its existence.

Particular attention is called to the report of the fund from April 15, 1940 to July 1, 1941, the time during which the fund has been under the management of Mr. Mott Keys, present Commissioner. The fact that the fund, as now operated, is paying its medical and hospital bills promptly is an indication that, under Mr. Keys' direction, its problems are at least being attacked on a business-like basis.

Mr. Keys is to be congratulated on his splendid administration, and the doctors of the state on the fact that they are the direct beneficiaries of this method of management.

From July 1, 1933 to July 1, 1941 (8 Years)

Medical and hospitalization bills.....	\$ 764,603.38
Compensation and attorney fees.....	2,024,742.41*
Operating, Salaries, etc.	410,280.39

Total.....	\$3,199,626.18
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Medical bills have averaged \$95,586.00 per year for eight years.

Medical bills have averaged \$7,965.00 per month for eight years.

Compensation bills have averaged \$253,092.00 per year for eight years.

Compensation bills have averaged \$21,091.00 per month for eight years.

Operating and salaries have averaged \$51,285.00 per year for eight years.

Operating and salaries have averaged \$4,273.00 per month for eight years.

From April 15, 1940 to July 1, 1941 (14½ Months)

(Under present management)

Medical and Hospitalization bills.....	\$121,907.51
Compensation and attorney fees.....	333,991.22
Operating and salaries.....	64,143.30

Total.....	\$520,042.03
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*Of the \$2,024,742.41 paid out in the past 8 years in compensation and attorney fees, approximately \$645,000.00 has been paid for the settlement of over 1,070 JOINT PETITION CASES.

SUPPLEMENTARY ROSTER OF 1941 MEMBERSHIP

The following is a list of 1941 Memberships that came to the Executive Office after the publication of the Roster in the June issue of the Journal:

BLAINE	
BUCHANAN, FRANK	Canton
STOUGH, FREEMAN, JR.	Geary
CANADIAN	
FUNK, G. D.	El Reno
CARTER	
JOHNSON, G. E.	1305 McLish Ave., S.W., Ardmore
CHEROKEE	
BARNES, HARRY E.	Tahlequah
GARFIELD	
BAKER, R. C.	Enid
GRADY	
OHL, CHARLES W.	Camp Barkeley, Abilene, Tex.
GRANT	
ROBINSON, F. P.	Nash
KAY	
MOHLER, E. C.	2d Observation Battalion, Fort Sill
LOGAN	
LARKIN H. W.	Minco
OKLAHOMA	
CLOUDMAN H. H.	Camp Barkeley, Abilene, Tex.
COLEY, JOE H.	4086 Jackdaw St., San Diego, Calif.
MILES, W. H.	Camp Barkeley, Abilene, Tex.
MILLER, NESBITT L.	Camp Barkeley, Abilene, Tex.
WATSON, I. NEWTON	Fort Sill
OTTAWA	
LANNING, J. M.	Picher
PAYNE	
BASSETT, C. M.	Cushing
SILVERTHORN, LOUIS E.	Stillwater
TULSA	
BEYER, J. W.	621 McBirney Bldg.
DAVIS, T. H.	Camp Barkeley, Abilene, Tex.
EWELL, W. C.	55th Med. Battn., Ft. Sam Houston, Tex.
FORD, R. B.	U.S. Naval Station, Corpus Christi, Tex.
PITTMAN, COLE D.	Chanute Field, Rantoul, Ill.
WILLIAMS, THEO S.	Mercy Hospital
WOODWARD	
WALKER, HARDIN	Warland, Wyo.

Dr. G. W. Scott Is Johnston County Resident

The Journal is pleased to make this correction to the Membership Roster printed in the June issue:

G. W. Scott, M.D., who was listed as a member of the Bryan County Medical Society, is a resident in Johnston county. He is a member of the Bryan county society, but resides in Tishomingo in Johnston county.

Southern Medical Association Meeting Date Changed

A change in the meeting dates of the Southern Medical Association meeting in St. Louis has been announced by C. P. Loran, Secretary-Manager of the Association.

The meeting will open Monday, November 10, and close late in the afternoon of Thursday, November 13. Previous plans had been to open the meeting Tuesday, November 11 and close it at noon, Friday, November 14.

The registration, scientific exhibits, clinical sessions, section and all conjoint meetings will be held at the Municipal Auditorium. The evening activities, including the General Sessions, the President's Reception and Ball and the Alumni Reunion Dinners will be held at the Jefferson hotel.

Registration opens immediately at noon, November 10, with the scientific programs beginning at 2 o'clock that afternoon.



View of Bassinets where Polyclinic Babies Get Off to Good Start.

CHEERFUL NURSERY IS AIR CONDITIONED

Polyclinic's nursery is a delightful place. It is refreshingly air conditioned from a central plant, which assures reliable temperature and humidity control. Fretfulness caused by heat discomforts is unknown here. Isolation technique is maintained for each bassinet.

Equipment is such as to assure absolute purity and cleanliness. The closest attention is paid to nursing care and proper feeding. In every detail adequate attention for the newly born infant is stressed.

MARVIN E. STOUT, M.D.
Owner

JOHN A. CUNNINGHAM, M.D.
House Surgeon

POLYCLINIC HOSPITAL

THIRTEENTH and ROBINSON

OKLAHOMA CITY

ROCKY MOUNTAIN MEDICAL CONFERENCE WILL MEET SEPTEMBER 2-4

On September 2, 3 and 4, the Rocky Mountain Medical Conference will convene for its Third Biennial Conference at the Canyon Hotel in Yellowstone Park.

Open to all members of the American Medical Association, the Conference will present a completely scientific program of talks by physicians of national reputation and scientific and commercial exhibits.

Guest speakers will include: James G. Carr, M.D., Chicago, Professor of Medicine at Northwestern University Medical School and Director of the Florsheim Foundation for Cardiac Research; Frank H. Lahey, M.D., Boston, President of the American Medical Association and Director of Clinical Surgery at the Lahey Clinic; Guy A. Caldwell, M.D., New Orleans, Professor of Clinical Orthopedics at Tulane University and Secretary of the American Board of Orthopedic Surgery.

Winchell McKendree Craig, M.D., Rochester, Minn., Professor of Neurosurgery Mayo Foundation Graduate School, University of Minnesota, and neurologic surgeon at the Mayo Clinic, Colonial Kahler, and St. Mary's Hospitals; Alexis F. Hartmaun, M.D., St. Louis, Professor of Pediatrics and Head of the Department, Washington University School of Medicine; Clarence M. Hyland, M.D., Los Angeles, Director of the Convalescent Serum Center and Laboratories, Children's Hospital.

Arnold S. Jackson, M.D., Madison, Wis., Attending Surgeon at the Methodist Hospital and Jackson Clinic; Roscoe G. Leland, M.D., Chicago, Director of the Bureau of Medical Preparedness of the American Medical Association; Norman F. Miller, M.D., Ann Arbor, Mich., Professor of Obstetrics and Gynecology at the University of Michigan Medical School; and John R. Nilsson, M.D., Omaha, Neb., Chief Surgeon of the Union Pacific Railroad Company and Professor of Surgery at the University of Nebraska College of Medicine.

The Conference was organized in 1935 and is composed of the state medical societies of Colorado, New Mexico, Utah, Wyoming and Montana.

For further information concerning the program and schedule of the Conference, any physician interested may inquire at the Executive Offices, 210 Plaza Court, Oklahoma City.

Work Begins On New Laboratories Of Searle and Company

G. D. Searle and Company, Chicago, have announced that work has begun on the building of their new laboratories and plant on the outskirts of Chicago in the Skokie district.

Completely modern in design, the plant will be constructed not as a factory-like building but as a scientific laboratory for the development and production of pharmaceutical products under the most modern scientific and hygienic conditions.

The laboratory atmosphere will be carried out throughout the building, except in the auditorium which is designed for meetings of the staff and workers and clinical meetings and demonstrations to visiting physicians and interested medical groups.

There will be laboratory units for organic chemistry, bio-chemistry, bacteriology, pharmacology and microanalysis. Next to the laboratory units will be a scientific library with facilities for the filing and indexing of journals, books and papers in all languages.

The premises will also contain a completely equipped emergency hospital, which will be operated by the Medical Service Division of the Searle laboratories, and extensive animal rooms for the housing and care of the different test animals used by the scientific staff in the testing of various drugs.

For all members of the organization, a recreational center with lounges, rest-rooms, meeting rooms and dining rooms will be provided.

The building, located in a suburban district, will be erected on a five-acre tract, and the unused portion will be devoted to lawns and flowers and a recreational field.

Thirteen Oklahoma Physicians Called to Service

As printed in the Journal of the American Medical Association thirteen more Oklahoma physicians have been called to military service.

They are:

Bigler, Ivan Edward, 1st Lieut., Ada, Lou Foote Flying Service, Stamford, Texas.

Blair, Clifford Jennings, 1st Lieut., Stapp, 368th Infantry, Fort Huachuca, Arizona.

Bush, Jordan Morgan, 1st Lieut., Oklahoma City, Station Hospital, Fort Sill.

Cavanaugh, John W., 1st Lieut., Oklahoma City, 200th Coast Artillery (AA), Fort Bliss, Texas.

Cook, Edward Tiffin, Jr., 1st Lieut., Anadarko, 368th Infantry, Fort Huachuca, Arizona.

Epps, Curtis Howard, 1st Lieut., Duncan, Station Hospital, Fort Sill.

Farnam, Lorenzo Matthew, Jr., 1st Lieut., Oklahoma City, 36th Division, Camp Bowie, Texas.

Kerr, Walter C. H., 1st Lieut., Picher, 113th Cavalry, Camp Bowie, Texas.

Klotz, William F., Captain, McAlester, Station Hospital, Fort Sam Houston, Texas.

Ley, Eugene B., 1st Lieut., Oklahoma City, Station Hospital, Camp Wolters, Texas.

Maril, William David, 1st Lieut., Oklahoma City, 368th Infantry, Fort Huachuca, Arizona.

Murry, Abel V., 1st Lieut., Picher, 260th Corps Area, Fort Bliss, Texas.

Reding, Anthony C., 1st Lieut., Tulsa, 202d Coast Artillery, Fort Bliss, Texas.

Nine Oklahoma doctors who were called to the service have had their orders revoked. They are:

Adams, Richard Martin, 1st Lieut., Tulsa.

Atkins, Paul N., Jr., 1st Lieut., Muskogee.

Box, Otto H., Jr., 1st Lieut., Grandfield.

Chaffin, Zale, 1st Lieut., Oklahoma City.

Clark, Ralph O., 1st Lieut., Oklahoma City.

Downing, Gerald G., 1st Lieut., Lawton.

Fox, F. T., 1st Lieut., Lawton.

Hude, William A., 1st Lieut., Durant.

Pryor, V. W., 1st Lieut., Holdenville.

Dr. Ballard Takes New Position As University Athletic Director

Dr. Ray H. Ballard, well-known in the state as an athletic instructor and coach, took over his new duties as student health director at the University of Wyoming, Laramie, Wyo., August 1.

Before he accepted the new position, Doctor Ballard served as director of the Cleveland county health department at Norman, where he had made his home for the past year.

Doctor Ballard has served as athletic director and basketball coach at Phillips university, Enid, and as athletic director and coach of all sports at Northeastern State college, Tahlequah. Later, he became athletic director and physical education instructor at Northeastern college.

He was graduated from the University of Oklahoma School of Medicine in 1939.

Dr. Paul Kernek to Practice With Holdenville Doctor

Dr. Paul Kernek left Oklahoma City July 1 to practice medicine with Dr. Victor W. Pryor in the Pryor-Johnston-Kernek Hospital-Clinic in Holdenville.

Doctor Kernek, until he joined Doctor Pryor, was resident and orthopaedic surgeon at St. Anthony's Hospital, Oklahoma City. He was graduated with an A.B. and M.D. degree from the University of Oklahoma, and served his internship in Charity Hospital, New Orleans. For two years he was identified with the Bone and Joint Hospital in Oklahoma City.

In changing his residence to Holdenville, Dr. Kernek goes back to his home town. He is a brother of Clyde Kernek, also of the staff of the Pryor-Johnston-Kernek Hospital-Clinic, who is now in the medical corps of the army.

News From The State Health Department

Special attention to conditions in areas adjoining defense projects is being given by the Oklahoma State Health department, at the request of military authorities and local officials in the areas concerned.

Matters of sanitation are receiving particular attention as every effort is made to protect the health not only of the men in military training, but the defense industry workers and civilians who reside nearby.

Early in the national defense effort military authorities asked for cooperation of the state health department in plans to protect the health not only of the armed forces, but of civilians as well.

The United States Public Health Service has also assisted in this program.

Late in June, the state health department received five trucks which carry equipment needed to do effective malaria control work. Loaned by the U. S. Public Health Service, the trucks will be used in defense areas.

Oil spray is being used to destroy mosquito breeding places.

Sanitarians in the county health departments have been alert to work for proper sewage disposal in defense areas. This has frequently become a problem, as defense projects would open up new areas to settlement and create sanitation problems. The plan has been to prepare before disease outbreaks occurred. Where laying of a sewer line has not been possible, health department workers have urged installation of proper septic tanks or pit type out door toilets.

Water supplies are being constantly checked, and particular attention is being given to food and milk supplies. Most of the areas concerned have passed standard food handling ordinances and work is being done to improve sanitation in restaurants.

Expert consultation service is offered to defense industrial plants of the state by the relatively new division of industrial hygiene of the state health department.

This division works with industry to remove hazards and conditions which might affect the health of the workers in plants of all types.

A new director of laboratories for the Oklahoma State Health department was named July 1.

Dr. F. R. Hassler became director then, succeeding Dr. W. D. Hayes.

Doctor Hassler was formerly director of the City-County Health department at Shawnee, and just returned from a year of study in the Johns Hopkins University School of Public Health at Baltimore, Maryland.

He has been with the state health department for several years and in addition to being a physician, is an experienced laboratory technician.

Doctor Hayes, who directed the laboratories for nearly four years, is now in the health education department. He will serve as lecturer on health subjects, will conduct schools in food handling sanitation and will act as consultant on public health matters.

Opening of a new county health department in Okmulgee county was announced July 1 by Dr. G. F. Mathews, commissioner.

The new preventive, public health unit will be directed by Dr. Lowell Stokes and will have a staff of public health nurses, a sanitarian and a clerk.

Doctor Stokes was assigned to Okmulgee after directing the Caddo County Health department at Anadarko during the past year.

Dr. William Loy, director of the department at Ardmore for several years, has been assigned to the Caddo County Health department.

Continuing the state health department policy of placing specially trained men in charge of the county health departments and special state health service, five physicians returned early in July after spending the past year doing graduate work in public health.

The group includes:

Dr. Frank P. Bertram, director of the dental division of the state health department. Doctor Bertram received his master of public health degree from Harvard university in June.

Dr. William Loy, Director of the Caddo County Health department. Doctor Loy also received his public health degree at Harvard.

Dr. Harry E. Barnes, temporarily director of the Bryan County Health department at Durant. Doctor Barnes received his public health degree at Johns Hopkins university.

Doctor Vance F. Morgan became director of the Comanche County Health department at Lawton after completing work for his public health degree at Johns Hopkins university.

Dr. F. R. Hassler received his master of public health degree and returned as director of laboratories for the state health department.

The medical staff was increased July 1 when Dr. L. H. Gaston of the United States Public Health Service was assigned to work in Oklahoma as part of the co-operative policy planned in defense areas.

Dr. Charles E. Leonard Joins Staff Of Coyne-Campbell Clinic

On July 1, Dr. Charles E. Leonard, formerly of Fort Supply and Chicago, Ill., joined the staff of the Coyne-Campbell clinic, Oklahoma City.

Doctor Leonard, who was graduated from the University of Oklahoma School of Medicine, did post graduate work at the Psychoanalytic Institute in Chicago, and practiced for a year and a half in Fort Supply.

In his new position with the Coyne-Campbell staff, Doctor Leonard will carry on his work in Psychiatry and Neurology.

Eighth Public Health Institute Announced

The Eighth Institute of Public Health Education will be held October 12, 13 and 14 in Atlantic City, N. J., Dr. Reginald M. Atwater, Executive Secretary of the American Public Health Association, has announced.

The Institute, which is a short course of study for all doctors connected with and interested in public health, will precede the 70th Annual Meeting of the American Public Health Association, October 14, 15, 16 and 17, in Atlantic City.

Booklet Stresses Doctors Prescriptions

The importance of having the physician prescribe the proper diaphragm is stressed in a booklet, addressed to pharmacists, by the Holland-Rantos Company entitled "The Pharmacist Looks At Contraceptives."

The Holland-Rantos Company are the pioneers in advocating the diaphragm plus jelly method and have consistently maintained that diaphragms must be properly fitted by physicians.

This monograph is the latest promotion done by the company in its advocacy of "The Physician's Method."

Classified Advertisements

FOR SALE: A short wave unit, portable model with wave length 6.5, type C Circuit, wattage 750, and complete with compartment for carrying pads and cord and a connection for surgery attachments. Any doctor who is interested may inquire for further information at the Executive Offices, 210 Plaza Court, Oklahoma City.

University of Oklahoma School of Medicine

The University of Oklahoma School of Medicine finished the academic year of 1940-1941 on June 9, 1941, when 54 students of the School of Medicine were graduated with the Degree of Doctor of Medicine; and 37 from the School of Nursing received the Degree of Graduate Nurse.

On July 1, 1941, the new interns appointed to the University and Crippled Children's Hospitals began their duties.

The following new Residents, Assistant Residents, and Fellows reported for duty:

Felix M. Adams, Jr., Duke University, Pathology.

Harvey Mr. Richey, Jr., University of Texas, Assistant in surgery.

Kenneth Von Pohle, College of Medical Evangelists, Assistant in Obstetrics and Gynecology.

Roy I. Peck, Western Reserve University, Orthopedic Surgery.

Benjamin Raxlen, University of Toronto, Anesthesia.

James K. Skahen, College of Medical Evangelists, Anesthesia.

Peter E. Russo, St. Louis University, Radiology.

Lloyd E. Pace, Baylor University School of Dentistry, Dentistry.

Margaret Zolensky, Medical College of Virginia, Pediatrics.

John T. Jacobs, University of Colorado, Fellow in Orthopedic Surgery.

The following Residents and Assistant Residents are

continuing their duties at the University and Crippled Children's Hospitals:

John W. Cavanaugh, (finished Senior Internship), Surgery.

A. L. Swenson, Orthopedics.

Richard C. Stauffer, Orthopedics.

H. Thompson Avey (finished internship this year), Medicine.

D. R. Bedford (finished Floating Internship), Medicine.

John M. Parrish, Jr., (2nd year Residency), Obstetrics and Gynecology.

Rugie R. Coates (2nd year Residency), Eye, Ear, Nose, & Throat.

The following Junior Interns reported for duty:

Edward E. Anderson, University of Iowa.

C. M. Bielstein, Baylor University.

J. Gordon Claypool, University of Kansas.

Daniel L. Tappen, University of Kansas.

Francis J. Daugherty, University of Colorado.

Harrell C. Dodson, University of Oklahoma.

Edwin C. Fair, University of Oklahoma.

Philip Joseph, University of Oklahoma.

John Gordon Hedrick, University of Colorado.

Robert Alvin Rix, University of Texas.

The following, who have served their Junior Internship, started on their Second or Senior Internship Year:

Ralph S. Armstrong.

J. D. Ashley.

James W. Beattie.

Harold Dyer.

J. Andrew Graham.

John B. Jarrott.

Willard C. McClure.

Vincent Mazzarella.

Leland F. Shyrock.

George W. Winkelman.

For the local Treatment of Acute Anterior Urethritis

(DUE TO NEISSERIA GONORRHEAE)

SILVER PICRATE*

Wyeth

A complete technique of treatment and literature will be sent upon request

*Silver Picrate is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by *Neisseria gonorrhoeae*.¹ An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," *Am. J. Syph., Gon. & Ven. Dis.*, 23, 201 (March), 1939.

JOHN WYETH & BROTHER, INCORPORATED, PHILADELPHIA

BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

"HISTORY OF MEDICINE." (Illustrated). Arturo Castiglioni, translated by E. B. Krumbhaar. Price \$8.50. Alfred A. Knopf, New York, 1941.

The general interest of the American medical profession in the history of medicine was first stimulated by such men as Osler and Welch. The monumental work of Garrison, whose volume on medical history had passed through four or five editions by the time of his death a few years ago, contributed to maintaining this interest.

The most recent comprehensive volume on the History of Medicine is the English translation of Dr. Castiglioni's book, first published in Italian in 1927. The author at that time was teaching medical history at the University of Padua. He has long been an internationally known medical historian and in recent years has become better known in this country through his lectures in various medical centers and his present position as teacher of medical history at Yale. The translator, Dr. E. B. Krumbhaar, himself a widely known authority in this field, deserves great credit for the success of the English edition. He has collaborated with the author in rearranging and adding to the material pertaining to more recent years.

The first half of the book deals with our knowledge of prehistoric disease and the evolution of medical practice from primitive times to the Renaissance. The history of civilization, which so closely parallels the evolution of medicine, is interestingly brought out. After discussion of the Renaissance the story unfolds in chronological order. In chapters dealing with each of the last four centuries medical progress is related in all of the specialties of medicine. The section dealing with American medicine has been largely contributed by Dr. Krumbhaar. The appendix, in addition to a valuable bibliography, contains a table illustrating in chronological order the rise of the more outstanding universities and faculties of medicine. The book is set in excellent type and its many illustrations have been unusually well selected and remarkably reproduced.

Although Castiglioni's history is invaluable as a reference, the very fine narrative style makes it fascinating reading, both to physicians and laymen. In his preface to the English edition, the author states: "This work is intended to give a picture of medicine at a time which perhaps marks the close of a historical period. It endeavours to express and teach through the examples of the past that above all troubles, all wars, and all revolutions the precious treasure of humanitarian thought and of medicine as a science, as an art, and as an impetus to the will to live will not stop in its progress toward further conquests."—B. F. K.

SYNOPSIS OF OBSTETRICS By Jennings C. Litzenberg.

This little book of 376 pages and 157 illustrations is small enough to fit into a coat pocket.

By one of the master teachers of Obstetrics in America, it has performed excellently the task of digesting the important principles and "sign-posts" of obstetrical care. It is in no sense a textbook, and makes no effort to be original, but serves to condense and digest the accepted facts of obstetrical principles.

Since the author has made no effort to be original, he has freely borrowed the illustrations from other complete obstetrical textbooks and has selected from many the best and clearest. The chapter on "Placentation" and the chapter on "The Physiology of Pregnancy" are each worth the price of the book. This work should be invaluable to the physician who desires a quick and thorough review, especially one which points toward State Board examinations.

The book is highly recommended.—E. N. S.

"SYNOPSIS OF VARICOSE VEINS." Alton Ochsner, B.A., M.D., D.Sc. (Hon.), F.A.C.S. and Howard Mahorner, B.A., M.D., M.S., (Surgery), F.A.C.S. 50 Illustrations, 2 Color Plates, 147 Pages. C. V. Mosby Company.

This monograph is a concise discussion of the treatment of varicose veins with a brief historical introduction. The authors discuss the anatomy of the leg from the viewpoint of the subject involved; and consider the pathology found in varicose veins, along with a brief discussion of the physiology of the veins of the leg.

They quote from numerous sources showing that the fairly recent treatment of this condition by the injection method alone has been fraught with disappointment.

The methods of examination of the patient with varicose veins are clarified. There is a discussion of the authors' conception of the best type of treatment for these patients. They go into the combined ligation and injection method as the method of choice in most cases at this time. Brief mention is made of other and more rarely used methods of treatment.

The authors are conservative and open minded; and make clear that the treatment of this condition, which has made great progress in the last few years, is still improving.

The book is an excellent monograph on this subject and is deserving of a place in the library of any physician who has occasion to see this type of patient.—J.P.W.

All Physicians May Exhibit New Film On Health of School Child

Under the rules laid down by the American Academy of Pediatrics, their new educational-to-the-public-film, "When Bobby Goes to School," may be exhibited to the public by any licensed physician in the United States.

All that is required is that he obtain the endorsement by any officer of his county medical society. Endorsement blanks for this purpose may be obtained on application to the distributor, Mead Johnson & Company, Evansville, Indiana.

Such endorsement, however, is not required for showings by licensed physicians to medical groups for the purpose of familiarizing them with the message of the film.

"When Bobby Goes to School" is a 16-mm. sound film, free from advertising, dealing with the health appraisal of the school child, and may be borrowed without charge or obligation on application to the distributor, Mead Johnson & Company, Evansville, Indiana.

Holland-Rantos Appointed Distributor For Rantex

The Holland-Rantos Company have been appointed exclusive distributors for Rantex, the newest development for surgical masks and caps — a patented fibre product which is insoluble in live steam, boiling water or common solvents. A magnification of Rantex shows that it is 176 times more protective than a single layer of gauze. As a result, it provides masks and caps which are exceptionally cool, comfortable, light and free from irritating lint or yarn. They are inexpensive enough to be discarded after a single use; yet they can be autoclaved or sterilized.

The masks are shaped to fit the face; the caps are well tailored. The masks and caps are already being used in many hospitals — including Doctors Hospital in New York, University of Pennsylvania Graduate Hospital in Philadelphia, United States Marine Hospital in Boston, Wisconsin General Hospital, University of Wisconsin in Madison, Wis., and the East Oakland Hospital in Oakland, Calif.

REVIEWS and CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments From
LeRoy Long Clinic
714 Medical Arts Building, Oklahoma City

"THE MANAGEMENT OF THE JAUNDICED PATIENT WITH SPECIAL REFERENCE TO VITAMIN K." Frederick A. Collier, M.D., F.A.C.S., and J. Matthews Faris, M.D., Ann Arbor, Michigan. *Surgery, Gynecology and Obstetrics*, July 1941, Volume 73, Number 1, Page 21.

"The mortality accompanying operations on jaundiced patients may be materially reduced by careful attention to the details of preoperative and postoperative care. The incoagulability of the blood frequently observed in this group of patients is due to a prothrombin deficit. Prothrombin is one of the serum proteins and like other serum proteins is supplied by the liver. A prothrombin test, therefore, is simply a test of liver function and parallels other tests as an index of liver dysfunction. Avitaminosis K is not so much a deficiency disease as it is a condition due to faulty absorption and is responsible for a demonstrable fall in the blood prothrombin which is manifest clinically in a tendency to bleed. The most common cause of hypoprothrombinemia is the absence of bile in the intestine, a condition common in the various forms of obstructive jaundice and other related conditions. Repeated administration of intravenous fluids in the presence of hemorrhage and the continued aspiration of bile from the gastrointestinal tract by the Wangenstein suction apparatus are conditions where a test of the prothrombin clotting activity should be done. The usual bleeding tests of Duke and Ivy are not dependable in detecting this deficiency, while the bedside test of Smith has proved to be highly satisfactory for clinical purposes. The fact that prothrombin level of the blood may be reduced to hemorrhagic levels by the administration of hepatotoxic substances makes it apparent that the liver plays an important role in the metabolism of prothrombin. Clinically, it would appear that the ability to synthesize prothrombin may be retained in a certain number of cases even in the presence of extensive cirrhosis and of metastatic carcinoma of the liver.

Therefore, as in the past, the prime objective in the treatment of obstructive jaundice is the restoration of the patency of the biliary ducts and the protection of the hepatic parenchyma. To attain this latter objective, a high protein and high carbohydrate diet should be given. Attention to other vitamin needs will enhance the state of general nutrition, cardiac reserve—vitamin B—resistance to infection—vitamins A and D—and the healing of the wound—vitamin C. Difficult surgical procedures can be successfully accomplished only if bleeding is well controlled. A new light thus shed on an enigma of the past gives hope of materially reducing the risk of surgical operations which are performed upon jaundiced patients."—LeRoy D. Long.

"A CRITIQUE OF THE SURGICAL TREATMENT OF HYPERTENSION." Edgar A. Kahn, M.D., Ann Arbor, Michigan. *Annals of Surgery*, June 1941, No. 6, Page 1073.

At the University Hospital in Ann Arbor, Michigan, about 700 patients in the past seven years have been subjected to bilateral supradiaphragmatic splanchnic section.

Three hundred fifty cases operated upon by Doctor

Peet have been studied in detail preoperatively and postoperatively by various departments of that hospital.

At the Mayo Clinic, Adson and Craig have employed a subdiaphragmatic operation, with no postoperative deaths in 271 consecutive cases. Their results compare favorably with those at the University of Michigan except they have not had as good results in malignant hypertension. Doctor Kahn believes this may be due to the fact that their operation is partially a postganglionic procedure.

Another large series of cases has been operated upon by Doctors White and Smithwick who have criticized previous operations on the basis that they are either incomplete or do not guarantee against nerve regeneration. These men are now carrying out an extensive supra- and trans-diaphragmatic procedure. They have had some excellent results.

The most important fact is that here are three large series of operative cases which are being carefully studied by skeptical but competent non-surgical observers.

It is the author's opinion that surgery has more to offer real hypertensives than any other form of treatment generally available at this particular time.

He cites instances of criticism of the surgical treatment of hypertension. Individual cases have been quoted of people who live for years without symptoms from their high blood pressure, but the author thinks these are exceptions because hypertension kills more people than cancer. This is especially true in men.

Numerous cases have been reported in which there has been a drop in blood pressure following some non-specific operation. Removal of prostate or prostatic resection often causes a drop in blood pressure. It has been known for a long time that catheter drainage alone can reduce the elevated blood pressure to normal. Prostatectomy in this instance might be considered a specific operation rather than a non-specific operation.

Occasionally thyroidectomy will produce a drop to normal in the blood pressure.

The author believes that many cases followed by unfavorable results did not have true essential hypertension. Many cases reported do not mention hemorrhages, exudates and papilledema disappearing from eye-grounds, where heart size and kidney function have returned to normal.

In particular the author criticizes a report by Ryland and Holman who are unenthusiastic about supradiaphragmatic splanchnic section, after performing it upon 40 patients, in more than half of whom the blood urea and, therefore, the nonprotein nitrogen of the blood was elevated. Reports by Peet of the University of Michigan have repeatedly and specifically stated that when the nonprotein nitrogen of the blood is elevated, operation is contraindicated.

Kahn thinks that the most valid criticism of the surgical treatment of hypertension is that only slightly more than 40 percent of people operated upon show a significant drop in pressure at the time of examination from nine months to seven years postoperatively, and that cases which will respond to splanchnic section cannot be selected in advance. In this regard he feels that progress is being made in the attempt to rule out those not vasospastic but primarily arteriosclerotic and those with fixed vascular changes, as candidates for splanchnic section. In the last few years routine pyelography has prevented certain hypertensives with unilateral or bilateral kidney disease from undergoing this operation. —LeRoy D. Long.

"SULFONAMIDE SUPPOSITORY IN THE TREATMENT OF ACUTE GONORRHEA IN WOMEN." Dr. William Bickers, M.D., Richmond, Va. American Journal of Obstetrics and Gynecology, July 1941, Vol. 42, No. 1. Page 162.

The author calls attention to the fact that oral administration of sulfonamide for the treatment of acute gonorrhea in women has not been satisfactory, certainly not nearly as satisfactory as in the treatment of the same condition in men where he feels the better results may be due to the chemotherapeutic effect of the drug passing over the male urethra after being excreted from the kidney.

In his out-patient service the author treated 25 cases of acute gonorrhea in women with oral administration of sulfonamide, employing 80 grains daily for the first three days and 60 grains thereafter for two weeks. In this group, only one patient had a negative smear at the end of one week and three patients had negative smears at the end of two weeks. The other 21 patients had clinical and laboratory evidence of gonorrhea when the 17 day course of therapy was completed. Of the 18 patients in the series of 25 who could be followed for three months, three developed a Bartholin abscess, four developed evidence of salpingitis, and 16 had a persistent endocervicitis while six had subacute Skenitis. It was upon the basis of this series, in addition to two children who had an acute gonorrheal vaginitis and received no relief from oral administration of sulfonamide, that the author bases his reflection that oral administration of the drug is not satisfactory in the treatment of acute gonorrhea in women.

Another series of 25 patients was treated by sulfonamide suppositories, employing 20 grains of sulfonamide and 10 grains of lactose in the suppository and using three suppositories daily.

The patients were treated for an equal length of time. Smears from the urethra and cervix were negative in all 25 patients at the end of one week. Of the 21 patients followed for a period of three months, 19 were symptom-free without evidence of urethritis and there were no cases of bartholinitis. There were no instances of salpingitis. One patient had a reinfection from a known source and one patient had a slight residual endocervicitis.

Two cases of acute vaginitis in children were seen and treated with laboratory and clinical cure in a 17 day treatment period.

It is the author's conclusion that sulfonamide locally in the form of boroglyceride suppository probably has real value in the prevention of complications and cure of infection in women. He feels that sulfonamide is absorbed from the vaginal mucosa in varying degrees, the degree of absorption being more evident in patients with acute vaginitis.

COMMENT: This is an extremely interesting and practical work in clinical investigation because it is entirely correct that the oral administration of sulfonamide has not been as satisfactory in treatment of acute gonorrhea in women as has been reported in men.

The results here recorded graphically demonstrate the ineffectiveness of the oral administration and, conversely, render excellent evidence that administration by suppository gives splendid results.

That the vagina has powers of absorption and that, frequently, treatment by the vaginal route is more effective has been demonstrated in the more effective treatment of gonorrheal vaginitis in children by suppositories than by either parenteral or oral administration of estrogens.

The author's contention that there was practically no residual endocervicitis is an additional important advantage.—Wendell Long.

"A STUDY OF ONE HUNDRED AND FIFTY CONSECUTIVE CASES OF ECTOPIC PREGNANCY." H. Huddnall Ware, Jr., M.D., and W. C. Winn, M.D., Richmond, Va. American Journal of Obstetrics and Gynecology, July 1941, Vol. 42, No. 1, Page 33.

These authors have carefully reviewed their material

and the summary and conclusions are quoted below.

1. One hundred and fifty case of ectopic pregnancy have been reported, with a mortality rate of 8 percent. This could be reduced to an operative mortality of 5.41 percent by eliminating four patients who died before operation.

2. A complete and accurate history is most valuable in arriving at a correct and early diagnosis. The menstrual history is particularly important, and often the patient states that her last period was delayed, scant, prolonged, or abnormal. Careful inquiry will reveal a period of amenorrhea, that is, a cycle of more than 28 days before the vaginal bleeding was noticed.

3. A dull ache or cramplike low abdominal or pelvic pain was recorded in 82 percent of the patients.

4. A typical history with sudden pain, syncope, and shock was obtained from only 26 of the patients, 17 percent.

5. Thirty-one patients, 20.66 percent, had been sterile five years or more.

6. Thirty-nine patients, 26 percent, gave a history of one or more abortions.

7. The temperature usually shows slight elevation, rarely above 100 degrees F. It was below 99 degrees F. in 39, or 26 percent, and below 100 degrees F. in 83, or 71 percent, of the patients.

8. A decrease in hemoglobin and red blood cell count, associated with recurring pelvic pain and temporary leucocytosis was frequently observed. The leucocyte count was below 10,000 in 54, or 36 percent, and above 15,000 in only 25 percent of the patients.

9. The sedimentation rate was of value when pelvic inflammatory disease was suspected. A rapid rate is seldom seen unless infection is present. Massive hemorrhage may occasionally increase the rate.

10. Manipulation of the cervix usually causes excruciating pain in the presence of ectopic gestation.

11. Posterior colpotomy is seldom necessary.

12. Pelvic examination must be gentle.

13. Fifty percent of the deaths could probably have been prevented if the women had consulted a physician and entered the hospital at the onset of symptoms.

14. Immediate operation, transfusion with whole blood, and other supportive measures, give the best results."

COMMENT: Ruptured ectopic pregnancy is a relatively frequent disease. However, there are many variations in the location of the rupture and the consequent amount of bleeding which produces a wide variety of symptomatology and makes accurate diagnosis frequently difficult. For the same reason, many instances of ruptured ectopic pregnancy are drastic emergencies while many others with only a small amount of bleeding intraperitoneally are not alarming emergencies but difficult diagnostic problems.

It is because of the relative frequency of this disease and the wide variety of symptomatology that reports such as this one are valuable.

There is no difference of opinion about the treatment when the diagnosis is once established. All agree that immediate operation with supporting transfusions if necessary is the wisest course.

The foundation stone of diagnosis has always rested principally on history of vaginal bleeding and the character of the pain. However, in order to maintain a high degree of accuracy, there are many secondary considerations which must be brought to bear, including laboratory investigation.

The mortality rate in this particular series is quite high but can probably be explained by the severe character of some of the ruptures encountered in this group of patients.—Wendell Long.

"OBSERVATIONS ON THE USE OF PROLONGED ANESTHETIC AGENTS IN UPPER ABDOMINAL INCISION." Robert Zollinger, M.D., Boston, Mass. Surgery, July 1941, Vol. 10, No. 1, Page 27.

It is generally believed that the limitation of respiratory excursions due to pain is an important factor in

the relatively high incidence of pulmonary complications following operations on the upper abdomen. It has been shown that stimulation of the central end of any intercostal nerve causes reflex inhibition of respiration. This is particularly true of the seventh to twelfth intercostal nerves. Also, stimulation of the peripheral branches, including those to the rectus abdominus muscle, inhibits respiration. It has been shown repeatedly that the inhibition to respiration is greater than is generally recognized, often amounting to approximately 60 percent depression of the mean vital capacity during the first few days following operation.

Present prophylactic measures, such as avoidance of tight dressings, rebreathing with carbon dioxide, and frequent changes of position, employed to prevent or decrease the incidence of pulmonary complications, are only moderately effective. Usually the patient is either unable or unwilling to take a deep breath, to cough, or to move about in bed because of the pain arising from the surgical incision. To the authors, it seemed reasonable that if the pain in the wound were alleviated sufficiently during the first few postoperative days, the patient would be more comfortable and the surgeon would have fewer pulmonary complications to contend with.

A number of methods have been advocated to minimize the pain of surgical incisions. Numerous surgeons advocate placing the incision in such a fashion as to interfere with as few sensory nerves as possible. Transverse incisions, for example, have become more frequent for this reason.

The authors approached the problem in a different manner, various types of anesthetic agents being used locally about the wound in an effort to block intercostal nerves.

They finally adopted a solution of eucupin in oil for blocking of the intercostal nerves at about the mid-axillary line on one or both sides.

Since it is difficult to estimate the amount of pain any individual has, they resorted to comparison of the vital capacities before and after operation in patients who had such intercostal nerve block as compared to those who did not have intercostal nerve block.

The block of the sixth to the eleventh intercostal nerves with eucupin solution in oil was found to decrease the post-operative pain of upper abdominal incisions, as demonstrated by vital capacity measurements.

Their experiments and their number of cases are limited but they are under the impression that intercostal nerve block with eucupin solution in oil will decrease the incidence of post-operative pulmonary complications. Their procedure does seem to have merit and warrants further investigation and clinical trial.—LeRoy D. Long.

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M. D.
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"PROBLEM OF WAR HEMERALOPIA." E. Heinsius, Kiel, Germany. Medizinische Welt, 1941, vol. 15, No. 14, p. 341-347.

As it happened during the first World War there is again an increase in the number of cases of nightblindness. It has been called "war hemeralopia" though it is only indirectly caused by the war, being the result of deficiency of vitamin A. Its importance in military service is evident.

The individual complaints vary. Recruits may say that they do not recognize their officers; or, that they are uncomfortable at night watches, cannot keep on with the others at night marches, or cannot drive the supply car at night. Officers may not recognize enemy patrols, or may mistake their own soldiers for the enemy.

The universal routine blackout of cities and the routine night attacks of the armies revealed the high incidence of night blindness among both soldiers and civilians. It is natural that severe degrees of hemeralopia will make people more or less unfit for military service.

lopia will make people more or less unfit for military service.

Nightblindness is a disorder of the adaptability of the eye to reduced illumination or to darkness. There are (a) constitutional, and (b) acquired cases of hemeralopia.

The constitutional type of nightblindness appears as 1. a hereditary disorder with either the dominant or the recessive form of inheritance, 2. associated with myopia, or 3. gradually developing with advancing age.

The acquired or secondary hemeralopia may be due to one of the following causes: 1. deficiency of vitamin A; 2. optical dysfunction of the eye (opacities of the refracting media, miosis); 3. diseases of the retina or choroid; 4. neural diseases, and 5. poisons.

Hereditary hemeralopia is the most frequent type to be seen; it makes about 50 percent to 85 percent of all cases of nightblindness. The hereditary form may be dominant (NOUGARET's type) as it occurred in the descendants of a 17th century Frenchman called Nougaret. This family has now ten generations with 2,116 members, of whom 135 are or were nightblind. Similar nightblind families have been observed in Denmark. The recessive form of hereditary hemeralopia is always associated with myopia of from 6D to 11 D, also frequently with astigmatism and loss of visual acuity. Such a family has been described by DONERS (1854). The third hereditary form is simple recessive, and has been first described by NETTLESHIP in 1908. This is also mostly associated with a slight degree of myopia, and occurs in persons descending from consanguineous marriages. A fourth hereditary type of hemeralopia is seen in the Oguchi disease in which the affection is combined with a whitish-gray discoloration of the fundus; after several hours of exposure in the dark the fundus turns to normal color again (Miguo's phenomenon).

Besides the hereditary hemeralopia it has been found that any myopia may be connected with a more or less disorder of dark adaptation of the retina. "Senile" hemeralopia was first recognized by TSCHERMAK, and later investigators proved that the power of dark adaptation decreases at the beginning of the fourth decade of life. PILLAT thinks that even such physiological hemeralopia is due to tropical disorders of the retina, and should be included under the general term of vitamin-A deficiencies.

Difficulty in seeing in the dark caused by dietary deficiencies has been known for several thousand years, but not until BITOT (1863) was it studied systematically, and not until STEPP and his discovery of vitamin A in 1909 was the true cause of the deficiency and of nutritional hemeralopia known. Such a deficiency may result from 1. lack of supply, 2. increased vitamin requirements as in pregnancy, rapid growth, febrile diseases, or active metabolism, 3. disorder of the absorption of vitamin and provitamin from the bowels as in chronic gastrointestinal diseases, catarrhal or obstructive jaundice, postoperative vomiting, administration of paraffin oil, 4. disorder of the metabolic regulation in the liver as in liver cirrhosis.

The visual purple is composed of protein and a vitamin-A-like substance called retinin. Light will change the visual purple into yellow pigment, and the regeneration of the purple requires fresh vitamin A and protein.

In Germany, dietary deficiencies occur chiefly among the civilians, and the author could not find any true case of war hemeralopia among German sailors, though about 21 percent of the adaptometer readings were subnormal. Yet, such subnormal values are not necessarily a proof of vitamin deficiency. Many other factors such as the general health, psychic influences and alcoholic beverages, may influence the momentary values of reading.

Indeed, hemeralopia is not infrequent in psychoneurotic persons, in those affected by war anxiety neurosis, or those who suffer from thyrotoxicosis. It seems to be unjustified to call the nightblindness a "war hemeralopia," and to blame the war for everything.

"GUNSHOT INJURIES OF THE ESOPHAGUS." W. Hetzar, *Konigsberg. Zentralblatt für Chirurgie*, April 1941, vol. 68, No. 16, page 763-768.

Among the war injuries of the trunk the most undesirable next to the abdominal injuries are the lesions of the thorax complicated by mediastinal affection. The majority of such injuries rapidly end in death because the mediastinum houses a number of important organs, and because, if there is not an early death, the wound will almost certainly suppurate, and cause general sepsis. Surgical approach to the mediastinal organs is still very difficult.

Since the mediastinum is closely packed with many anatomical structures, it is extremely rare that one of these structures is injured in an isolation form, without lesion of the neighboring structures. Thus, isolated gunshot wounds of the esophagus are also extremely rare. Yet, if they occur, they have a good prognosis, in spite of the mediastinitis which develops secondarily. It may sometimes happen that the projectile does not leave the thorax, but it remains in the mediastinum where it is soon covered with fibrotic tissue. As the Polish-German campaign showed, primary infections of the mediastinum were mostly seen after perforating cross-shots of the thorax.

Injuries of the cervical esophagus are a priori of better prognosis, since they are easily approached externally, and a beginning infection can be quickly prevented from reaching the mediastinum.

Generally, the patient does not feel much after his esophagus has been shot. There are very few localizing symptoms, and the diagnosis may be only occasional. There is little or no dysphagia, especially if the lower third of the gullet has been injured. Since the modern projectiles are of small caliber, even the expected fistula symptom (flow of food from esophagus) will be missed. Yet, considering this symptomless character of esophageal gunshot wounds, one should always be suspicious in a case of benign mediastinal injuries, and one should treat the case as if the esophagus had been shot. This means that every precaution should be taken for the prevention of suppurative mediastinitis. Gastrostomy is needed, and the oral feeding of the patient should be replaced by artificial feeding through the stomach wound.

With such a precaution the esophageal wound will heal promptly. Late sequela of the injury may develop, however, in the form of cicatricial displacements of the esophageal tube causing slight dysphagia; even stenosis or traction and pulsion diverticula may result. Sometimes, the esophageal injury might be entirely symptomless, and a later examination may not find any trace of a former lesion. Such was almost the case of a 44-year old German soldier, who was shot during the Polish-German campaign. The projectile stuck in the mediastinum, as this has been proved by roentgenograms. It caused bronchitis, and hemoptysis. Half a year later, another roentgenogram showed the disappearance of the projectile. On its place there was a single fibrosis of the middle third of the esophagus. It is supposed that the projectile migrated into the esophagus and left the body per vias naturales.

"THE INTERIOR OF THE LIVING EYE CONSIDERED AS A BIOCHEMICAL LABORATORY." A. M. Ramsay, *Glasgow. Glasgow Medical Journal*, June 1941, vol. 17, No. 6, p. 173-188.

Before the discovery of the ophthalmoscope no one knew anything about the interior of the living eye. All our ophthalmology was based on clinical case reports and the patient's own statements. The ophthalmologist had to be guided in his treatment by the subjective symptoms, but there were no "objective signs" to rely upon. Thus, the pre-ophthalmoscopic era abounds in such unspecified terms as amblyopia, amaurosis, etc. Yet, there was no further possibility to classify blindness.

HELMHOLTZ, in 1851, completed the invention of his ophthalmoscope as the result of a skilled and de-

liberate research. Albrecht von GRAEFE was a young physician at that time, but he immediately recognized the great opportunities and the clinical value of the new instrument. He indeed considered Helmholtz's ophthalmoscope equivalent with the discovery of a new World. It was GRAEFE who developed ophthalmoscopy to a perfect diagnostic method, yet it is the merit of his contemporary, HUGHLIN JACKSON, that the method and the examination of the eye fundus has been universally accepted as a routine part of the clinical examination.

The ophthalmoscope is, however, much more than a diagnostic and prognostic instrument of ocular, cerebral and systemic diseases. The interior of the eye offers a unique opportunity for the observation of vital processes in health and disease. Indeed, the fundus oculi is a laboratory in which Nature herself performs all the experiments. With the aid of the ophthalmoscope we can look through the window of the pupil into this laboratory and watch Nature at work. The insight into this laboratory opens a new way for studying disease and its physiopathology. What we can see in the laboratory of the eye is an indicator of what is occurring hidden from view in other parts of the body, in the kidney, the cardiovascular system, the brain, etc. The routine use of the ophthalmoscope enables us in many instances to detect the earliest manifestations of remote and incipient diseases.

Each of the three tunics of the eyeball contribute something to the make-up of the ophthalmoscopic picture: the sclera is the white canvas on which the picture is painted; the choroid, with its pigment and blood vessels, gives the red color, while the transparent retina gives the peculiar lustre of the picture. Normally, the transparency is due to the impermeability of the intraocular capillaries to the passage of colloids. Yet, if metabolic waste products reach the capillary circulation, the fine vessels dilate, their walls become permeable, and the infiltration of colloid causes a lack of translucency of the ophthalmoscopic picture. The patient begins to complain in general terms of headache, and, in his urine, the normal ratio between the daily output of urine and its specific gravity may be found disturbed. At such an early stage of disease, everything can be corrected easily by rectifying renal inadequacy, and functional derangement of the liver.

After some time, if the condition of toxemia is not corrected, the loss of retinal transparency becomes more apparent, and the intraocular capillaries will be further injured so that small, irregular hemorrhages appear on the fundus oculi. Soon, there will be a frank acute retinitis, which begins together with the acute glomerulonephritis. Looking into the eye through the ophthalmoscope is almost the same now as watching the renal glomeruli: observation of the intraocular vascular changes is a reliable guide in prognosis.

And it is exactly the same with many other systemic conditions. In many of them there are vascular changes in the eye fundus which can be readily seen. The value of these changes in prognosis cannot be properly estimated until they are correlated with such symptoms as high blood pressure, albuminuria, glycosuria, uremia, anemia, etc.

The debt which general medicine owes to ophthalmoscopy cannot be fully acknowledged until the physician examines the eye as systematically as he feels the pulse, interrogates the heart, and applies chemical and microscopic tests to the urine.

"SENILE DEAFNESS." By G. Hofer, *Graz, Austria. Medizinische Klinik*, 1941, vol. 37, No. 3, page 49-52.

It is generally known that the function of hearing changes with advancing age. The first sign of the decreasing hearing power is that the sound of fine instruments such as a watch cannot be heard, or the high tones played by an orchestra are not perceived, or that the ageing person has difficulties in an ordinary conversation in a large group. In the advanced stages of senile

deafness, tinnitus is associated with the hearing difficulty.

Senile deafness and its pathogenesis has been studied since the end of the 19th century. It was ZWAARDEMAKER who made the first serial investigations on the basis of which he formulated the three laws of presbycusis: (1) the human hearing gradually loses its acuity, and at the onset of senium it has already lost half an octave of its upper tonal limit; (2) during the senium the loss of upper tones further increases; and (3) the upper tonal limit is $e7$ in adolescence, while in old people it is $a6$ or even $g6$. Any further reduction of the upper range or hearing should be considered pathological. In other words, each age has its own characteristic upper limit of audition.

Simultaneously with Zwaardemaker, CUPERUS studied the lower range of hearing, and found that in senile deafness there is a loss also at the lower tonal range. Later, RICHTER showed that with advancing age there is a general change in the threshold of hearing by both air and bone conduction. SPORLEDER's investigations proved that progressive diminution of hearing is universal after the age of fifty. Moderate grades of hypacusis occur among middle-aged persons between 50 and 70 years of age. After 70, the loss of auditory faculties becomes rather rapid.

The cause of senile hearing loss has been sought after already by SPORLEDER, but he could not find any pathological alteration in the inner ear, and suggested that the cause may be centralwards in the acoustic nerve. Thereafter, WITTMACK (1907) made his histological studies of senile degenerative deafness on dogs, and ZIFFER described the age-produced changes in the hearing organ. According to JAEHNE, the anatomical findings in senile deafness were as follows:

(1) atrophy of the organ of Corti, with almost complete disappearance of the membrana tectoria, changes in the diameter of the cochlear duct due to alterations in Reissner's membrane, changes in the ligament and the stria vascularis, fibrosis, and ossification in the perilymphatic spaces; (2) atrophy of the cells of the spiral ganglion, fibrosis in Rosenthal's neural canal; (3) atrophy of the fine neural fibrilles; (4) atrophy or chronic inflammation with fibrosis in the acoustic nerve.

O. MAYER's investigations, however, showed that there are several other possible causes of senile deafness such as changes in the membrana basilaris, labyrinthine and neural degenerations due to arteriosclerosis. He also pointed out that not every case of deafness in old age is necessarily a case of senile deafness; it may be a progressive labyrinthine deafness or deafness caused by osteofibromatosis of the labyrinthine capsule.

Lately, two Finnish authors, FIEANDT and SAXEN, made a thorough study of the anatomical changes in senile deafness. They proved that the richly vascularized epithelium of the stria vascularis in the cochlear duct is of great importance for the formation of the endolymph. The epithelium of the stria and that covering the convexity of the spiral prominence are true secretory organs of the labyrinthine fluid. The vessels of these secretory organs are affected by senile arteriosclerosis, and the result will be an atrophy of the organ of Corti. According to these authors the pathological basis of senile deafness is (1) atrophy of the organ of Corti due to vascular causes, or (2) primary atrophy of the spiral ganglion, and, rarely, (3) central changes in the acoustic tract.

Vascular senile deafness is associated with a relatively good bone conduction, while in the deafness due to primary ganglionic atrophy the bone conduction is shortened, and the upper threshold of the hearing is lowered. In senile deafness due to central causes the lower threshold of hearing is elevated, but in all types the vestibular reactions are normal. Any change in the vestibular tests must be caused by some central affection.

All these investigations prove that senile deafness is the result of different factors, and many more studies will be needed to expose all the possible combinations of these factors. Thus, we are still ignorant of the

senile changes in the central nervous system. The prognosis is uncertain. There may be even hereditary predispositions at work so that no one can foretell the exact outcome of a case of senile deafness neither by judging from the onset of the affection, nor by making forecasts from the speed of the advancing deafness.

Considering the pathology of senile deafness, it seems to be futile to attempt at any kind of treatment. Treatment of the existing affections of the middle ear is indeed not a cure for presbycusis. For some time, KOCH and others experimented with male and female estrogenous substances on the belief that the senile alterations are partly due to the lack of these hormones. These experiments proved satisfactory inasmuch as the estrogenous substances injected intramuscularly caused the disappearance of the subjective sensation of tinnitus in 95 percent of the cases. Moreover, some patients reported a certain improvement in hearing, and it could be proved that the upper limit of hearing was increased by one tone. Such improvements would last for one and a half to two years. Three injections of the estrogens were sufficient to stop any recurring tinnitus.

The mechanism of action of these substances is still unknown, and it has to be shown whether the humoral and vegetative changes in senile deafness are reversible, and whether they could be influenced by the sex hormones.

PLASTIC SURGERY

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"THE SPLIT VERMILION BORDERED LIP FLAP." Bradford Cannon, M.D., Boston, Massachusetts. S.G. & O., July 7, 1941, Page 95.

The author recommends this operation for tight upper lips following repair of double hare-lip. He borrows the flap from the lower lip. This operation is a modification of the Estlander plan originating in 1872. The author recommends general anaesthesia, careful marking of the flap and the lips to insure balance of the parts. One particular point in the technique is the release of the short columella and the elevation of the tip of the nose. The wound in the lower lip must be closed carefully to insure satisfactory healing.

The author recommends two and one-half to three weeks time before severing of the pedicle. The circulation of the flap can be tested by digital compression.

The author illustrates the procedure by carefully prepared diagrams. He shows the pre-operative and post-operative results by photograph.

Conclusions: This article demonstrates the use of the flap from the lower lip to the upper lip where there is need for tissue. This is planned similar to the Estlander or Abbe operations. A similar procedure is often used for partial loss of either upper or lower lip. This may be due, of course, to operations, radiation for tumor, trauma, etc.

It should be stressed that such an operation when done should be done very carefully and accurately with especially careful closure of all suture lines.

"MALIGNANT MELANOMAS." J. B. Brown and L. T. Byars. Am. J. Orthodont. & Oral Surg., 1941, 27:90.

The authors re-emphasize the rapidly fatal character of malignant melanoma, the uncertainty of its origin and the diversity of its occurrence. Because of certain confusion regarding treatment they present some guiding principles of such treatment. Since a large percentage of such malignancies arise in pigmented nevi, destruction of the pre-cancerous lesion should be the goal. They recognize two types of nevi, (1) the congenital or Nevus which is flat and not heavily pigmented and seldom becomes malignant, and (2) the nevus that develops any time during life, increases in size, and

often becomes malignant. They state that any pigmented or non-pigmented moles subjected to chronic irritation, or showing evidence of growth, increase in vascularity, change of color, repeated infection, or of ulceration, and all smooth, coal-black nevi should be removed. The dangers of "fooling" with the common mole, with acids or incomplete electrodesiccation are stressed. The removal should be quick, painless, non-irritating, thorough, and with minimum handling of the growth. A method which fulfills these requirements is described by the authors (Fig. 1).

The diagnosis of the change from an innocent pigmented nevus to a malignancy is made on the basis of an increase in elevation of surface area, a deepening of pigmentation, and increase in vascularity, or an apparent chronic infection. An entirely new warty growth in the skin or under the nail may be difficult to diagnose as a melanoma but such neoplasms should be considered malignant. Melanin may or may not be present in these melanomas.

There is general agreement that malignant melanoma is resistant to radiation. The treatment of choice in melanoma of the face and head is surgical, and the operative removal, usually with a cautery or diathermy, must be quick, with a minimum handling of the lesion, and should include a generous margin of surrounding normal skin and subcutaneous tissue down to the fascia. This excision may require later repair with skin grafts or pedicle flaps.

The usual cause of death in cases of malignant melanoma is rapidly occurring metastases rather than extension from the local lesion. Five possible causes exist:

1. There may be recurrence of the initial lesion.
2. Metastasis may occur in the adjacent skin.
3. There may be generalized rapidly fatal skin metastases which possibly have their origin in the pituitary-melanophore relationship.
4. Visceral metastasis may occur in a matter of months or years even with the local lesion cured. The patients with late metastasis seem to have the original lesion in the choroid of the eye.
5. There may be local lymph-node metastasis. Only in this last group is there hope of cure.

Therefore, if the primary lesion is located so that its lymph drainage is fairly well predictable, a prophylactic dissection should be done.

The authors present 11 advanced cases of malignant melanoma; among them was a case with seven year cure following radical neck dissection for metastatic melanocarcinoma, and a case of primary melanoma of the parotid gland with secondary skin metastasis in which the patient was alive and well four years after radical removal. In a third case, a melanocarcinoma of the cheek with neck metastasis, which necessitated excision and grafting of the initial lesion, radical neck dissection, and subsequent removal of a parotid metastasis, the patient was alive after fifteen months.

Conclusions: This article was transcribed from Bradford Cannons translation. All practitioners see melanomas and fear of any procedure about these tumors is well founded. The treatment outlined seems to have considerable merit.

CARDIOLOGY

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"LEFT VENTRICULAR HEART FAILURE." George Hermann, M.D., Galveston, Texas. Modern Concepts of Cardiovascular Disease, July 1941.

Left ventricular heart failure is heralded by shortness of breath, as a cardinal symptom. Breathlessness usually appears only after exertion but it may come on at rest, particularly during sleep and may awaken the

patient from deep sleep. This significant respiratory distress or dyspnea may be transient, periodic or persistent. Though it may be a symptom of emphysema, anemia, aneurysm or other conditions, dyspnea is most commonly the response to pulmonary engorgement which in turn is the result of congestive left ventricular heart failure. Paroxysmal nocturnal orthopnea often appears as the first indication of left ventricular heart failure. There may be merely an exaggeration of a regularly recurring periodic apnea following a regularly increasing dyspnea of Cheyne-Stokes breathing. Usually it is evidence of even more striking and serious disturbance in the respiratory center.

The failing left heart gives rise to the characteristic symptom in advance of the development of pathognomonic signs. The presence of primary physical conditions, hypertensive arteriolar disease with or without chronic nephritis, aortic valvulitis with regurgitation or stenosis, that are known to put a great load or strain on the left heart, should cause the physician to be on the alert for evidences that suggest the imminence of failure. These conditions may be present for years before the clinical phenomena of left ventricular failure intervene gradually or suddenly. Slight Cheyne-Stokes breathing at nightfall, alteration of the pulse and blood pressure or gallop rhythm over the apex and decreasing vital capacity are premonitory signs. As left ventricular failure evolves, fine, crepitant rales and dullness usually appear first at the right lung base posteriorly. Eventually there is a disappearance of tactile fremitus, muffling of the breath sounds and egophony over a developing hydrothorax.

Failure eventually practically always involves the whole heart muscle mass, but fairly frequently the symptoms and signs of weakness of the left less often of the right ventricle alone are presented. The specific unilateral manifestations may persist for some time but only rarely in absolutely pure form. The delicately balanced circulatory equilibrium that normally exists between the lesser or pulmonary and the greater or general systems must be recognized. A relatively minute lessening of the output per beat from one ventricle results after a few hours in the accumulation of a significant blood volume rise in the system that is normally drained by the ventricle.

Forward heart failure develops at times under less common circumstances, the result of loss of left ventricular propulsive power as after a massive myocardial infarction. This creates a clinical picture of shock or peripheral circulatory collapse. Backward heart failure is the common type and is of a different nature. Much convincing argument has been set forth in support of the theory that the usual type of circulatory failure is due to back pressure of blood in the incompletely drained venous system. This will explain most of the clinical phenomena, the symptoms and the signs. The two types, backward and forward failure, may be combined, as in some cases of hypertensive heart disease with coronary occlusion, with myocardial infarction and weakness.

Recognition of the mechanism of circulatory failure and of the ventricle that is predominately weakened is requisite to the most rational scientific and logical treatment of a given situation. The characteristic respiratory symptoms of dyspnea, orthopnea, cough, and sometimes frothy expectoration with signs of pulmonary congestion, hypertension and P2 accentuation, warrant the diagnosis of left ventricular weakness, insufficiency or failure.

General non-specific symptoms of a failing circulation, as the sense of exhaustion, indigestion, etc., will not be gone into, nor will the symptoms and signs of the more commonly easily recognized congestive or right heart failure be considered.

The clinical picture in terms of pathological physiology. Sudden air hunger may be precipitately presented without any premonitory symptoms. The patient may be awakened from a deep sleep with a start in a state of nervous excitation. The attack often causes him

to get out of bed and go to a window to "get fresh air." Usually the orthopnea subsided rapidly as the patient get thoroughly awakened. After a variable interval, often short, the patient is able to go back to sleep and may sleep the rest of the night undisturbed.

There is considerable evidence that the sensitivity of the central respiratory center changes, and that showers of nerve impulses from the lung are of most serious moment in the pathological physiology of left ventricular heart failure. The dramatic relief that follows the use of morphine substantiates this. The chronic or acute pulmonary venous stasis distends the lung and pleura which gives rise to stimulation of the respiratory center, the so-called Hering-Breuer reflex. The reflexes carried to the medulla through the vagi, bombard and excite the respiratory center to overactivity.

Great anxiety is the predominant symptom and air hunger seems to make the patient "panicky." The breath seems to go so far and no further. It may be quite short. The respiration is rather shallow and rapid and seemingly ineffectual. Then again there may develop a gasping, sighing, thrashing around, noisiness and restlessness. Shallow, rapid breathing may result from the effect of severe anoxemia on the respiratory center and creates a vicious circle. It dissipates carbon dioxide and reduces tidal air 50 percent, though the ineffectual dead space may be adequately ventilated. The vital capacity is reduced by the encroachment upon the air sacs of pulmonary congestion.

Paroxysmal nocturnal dyspnea attacks are dramatic episodes of acute left ventricular failure. The explanation of this phenomenon upon the basis of pathological physiology is still quite theoretical, but should nevertheless be set forth. There is known to be an accumulation of various acid metabolites in the tissues of the brain stem. Pulmonary congestion leads to the decrease in carbon-dioxide accumulation. Sleep removes the control of the respiratory center from the higher centers and local respiratory center acidosis develops. Carbon-dioxide tension rises and otherwise overactive autonomic stress or vagotonia increases during sleep. The blood pressure and pulse rate usually fall so that the irrigation of the respiratory center as well as the general musculature becomes less adequate. These conditions develop simultaneously to a certain point at which an attack or paroxysm is precipitated, usually during deepest sleep. The systolic and diastolic blood pressure and pulse rate rise sharply as the dyspnea increases.

Acute pulmonary edema of acute left ventricular failure, with the transudation of great supplies of fluid into the bronchioles, sharply reduces the available respiratory surface for gaseous exchange. Increased respiratory distress, cough cyanosis, frothy pink-stained sputum and the crepitant rales of acute pulmonary edema rapidly develop. The patient may drown in his own extruded pulmonary fluid.

Treatment of the Pathologic Physiology. The success of some emergency therapeutic procedures throw some light on the mechanisms at play in acute left ventricular failure. In profuse transudation tracheal bronchial catheterization with suction may be necessary for removal of the secretions and prevention of fatal anoxic anoxia in the patient. The appearance of cyanosis in such a patient is an indication for prompt administration of oxygen by means of a nonnasal mask in as nearly 100 percent atmosphere as possible in order to get arterial blood oxygen saturation by mass action. Congestion of the lungs and pulmonary edema interfere with normal arterial oxygen saturation of the blood.

Increased oxygen tension in the atmosphere supplied raises that in the alveolar air and results in a nearly normal saturation. Under standard conditions, each 100 cc. of blood normally saturated with oxygen carries 18.5 to 20.0 cc. of oxygen. Most of this is in loose combination with hemoglobin and only 0.36 cc. of oxygen saturated blood to 22 or 23 cc. in the hemoglobin while that carried in physical solution in plasma is raised to 2.2 cc. These figures represent the maximum supersaturation.

The purely mechanical factor of engorgement seems to play a role in that trapping venous blood in the periphery by tourniquets on all four extremities usually stops an attack. This maneuver prevents the return of blood to the right side of the heart and consequently limits the output of the right ventricle. This would tend to lower the congestion in the lung. Phlebotomy or venesection acts similarly. The decreased filling of the right heart causes a drop in the right ventricular output and the imbalance between the right and left ventricular outputs disappears and the equilibrium in the two circulatory systems tends to be reestablished. If both ventricular outputs are diminished equally, the circulation is slowed but general congestive heart failure is avoided.

Other Emergency Therapeutic Measures. The absolute specificity of morphine sulphate, ($\frac{1}{4}$ gr. or 15 mg.) subcutaneously, in this condition is the most convincing evidence of central nervous origin of most of the trouble. Anxiety is allayed, excessive reflexes from the lungs are interrupted, the cough stops and sweating and pallor disappear. Cheyne-Stokes' breathing may be precipitated and aggravated. The blood pressures, both systolic and diastolic, drop back to normal. The increased parasympathetic tonus may be relieved by atropine and the cardiac asthma gradually subsides.

Pure or crystalline digitalis glucosides are indicated intravenously as powerful left ventricular heart muscle tonics in all severe attacks of pulmonary edema. Prompt myocardial tonic stimulation is, in my experience, best and most safely accomplished with pure crystalline glucosides, as Digilanid C or Lanatoside C $1\frac{1}{2}$ to 2 mg. I.V., or strophanthin $\frac{1}{2}$ mgm. I.V. It should be remembered that the latter should not be used if the patient has taken digitalis by mouth within two weeks. I have had no serious reactions following any of a considerable number of injections of the newer Digilanid C introduced intravenously in $1\frac{1}{2}$ to 2 mg. doses.

Digitalization with the oral standard powered leaf of digitalis by the rapid or moderately rapid methods of $4\frac{1}{2}$ grains (0.3 G) or 3 grains (0.2G) for three or five doses at six hour intervals usually has a very definite effect in increasing the left ventricular tone and relieving the patient completely of attacks. Immediate support of the left ventricular myocardium by intravenous preparations of digitalis may, however, be necessary to save the situation.

Aminophyllin, intravenously in a $7\frac{1}{2}$ gr. (0.5 G) dose may theoretically be dangerous during the acute phase because of increasing the blood volume which would thus add sharply to the load of the left ventricle. Practically, however, aminophyllin has been used without being followed by any recognized instances of aggravation. It has always seemed rational to me to administer aminophyllin in 3 grain (0.2 G) doses T.I.D., P.C., for the dilating effects of the drug on the coronary arterial bed. This probable coronary dilating effect is the rational basis for the administration of aminophyllin as a possible method of preventing the onset of attacks of acute left ventricular failure.

Intravenous mercurial diuretics, and particularly combinations of organic mercurials and xanthines such as mercupurin, often are effective in interrupting seriously recurring nocturnal paroxysms of pulmonary transudation and edema.

Occasionally adjustments take place in the circulation spontaneously and the imbalance in left and right ventricular outputs is naturally overcome. Sometimes at the height of left ventricular failure with extreme pulmonary engorgement, cyanosis and orthopnea, the "safety valve" or the triuspid ring may dilate and permit regurgitation. As the right ventricle fails the acute and extreme pulmonary engorgement sometimes seems to be relieved, the forcing of the blood from the right ventricle into the congested lung is decreased, the attacks may thus be suspended even though the circulatory failure is not lessened. This shift seems to relieve the situation. The distress is relieved, the

respiratory function improves, the breathing is easier, the cyanosis diminishes, the vital capacity rises and the lung fields clear. Accompanying these changes there is engorgement behind the right heart, the liver enlarges and may accept and hold a liter and a half of blood, and edema gradually develops. The new problems of general or systematic congestion or right ventricular failure arise for consideration.

ORTHOPAEDIC SURGERY

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"RONTGENOLOGISCHE DIAGNOSSE DER MENISKUS-LUXATION IM KNIEGELENK OHNE VERWENDUNG VON KONTRASTMITTELN (Roentgenographic Diagnosis of Meniscal Lesions in the Knee Without the Use of Contrast Solutions)." Trygve Krogdahl. Acta Radiologica.

The author calls attention to the fact that with the extremity straight, abduction of the leg permits roentgenographic visualization of the medial meniscus. The procedure was first described by Nordheim, consists in binding both knees together and forcibly abducting the leg. In this position and with the central ray making an angle of 75 degrees to the horizontal, the roentgenogram readily demonstrates the shadow of the meniscus in those cases in which no fracture is present in the knee joint. The inability to visualize the meniscus under these circumstances is presumed by the author to be indicative of an effusion which may be so small as to be clinically unrecognizable. Normally, the space between the femoral and tibial condyles in this position is approximately two to three millimeters. If the space is large on the roentgenogram, it may be presumed to indicate an injury to the collateral ligaments of the knee joint.

"A CRITICAL APPRAISAL OF THE LEG LENGTHENING OPERATION." American Journal of Surgery, LII, 415, June 1941.

End results of bone-lengthening procedures in 52 cases are studied with particular emphasis on gait and function of the extremity. Forty-one were in the lower leg, of which the cause of shortening was poliomyelitis; two were congenital; and two were due to epiphyseal damage from manipulative treatment of club feet. Nineteen of the patients operated upon since 1939 were considered to have passed the rapid growth of adolescence. Then lengthening was from one and one-half to two and seven-eighths inches, as checked on roentgenograms. Consideration was given to a maintenance of length, secondary development of deformity, changes in muscle power, and gait or function. Maintenance of length was quite uniform and three patients showed more rapid growth than the normal leg; and one failed to maintain the leg equality. Improvement was, of course, noted in postural balance, due to leveling of the pelvis and lessening of scoliosis. Knock-knee and valgus of the foot was increased in eight patients, and some loss of ankle function was noted, also changes in gait from greater strain on the weakened hip abductors. Studies of the gaits of these patients showed that six were improved, nine were not improved, and four were worse, which led to the conclusion that the two elements of shortening and muscle weakness must be carefully evaluated, so as to make a more careful selection of cases.

Patients with weak hip fixators and quadriceps accounted for most of the less satisfactory results. No cases of non-union were found, only one case of bone infection, and only moderate bone displacement in the fragments. Foot displacement occurred in two cases, and foot stabilization was done after the lengthening

was complete. Nerve disturbance of a temporary character was seen in two cases.

Contra-indications are old osteomyelitis and epiphyseal injuries where length can not be maintained. In congenital shortening each case must be considered separately. The author does not consider the operation feasible in patients without enough power to walk without a brace. Best results are in poliomyelitis cases with enough power in the gluteus muscles to fix the pelvis against gravity when walking, and sufficient quadriceps power to extend the knee with several pounds' resistance to the ankle. In doubtful cases, the shoe should be built up to equal the proposed lengthening, and the resultant gait observed.

"CRITERIO FUNCIONAL EN EL EXAMEN PERICIAL DE LOS FRACTURADOS (Functional Criteria in the Critical Examination of Patients with Fractures)." Oscar R. Marottoli Anales de Circugia, VI, 369, 1940.

This article is an excellent discussion of how to grade a patient who has had a fracture, and who is ready to return to work. The author brings out the point that in the evaluation of residual disability in the final results from a fracture, the patient should be looked at from a broad point of view, including his ability both to do the kind of work he had been doing, and to adapt himself to a new type of work. He quotes a legal decision in support of this idea, and stresses the point that what he calls a physiological end result is very much more important than the anatomical result. We are all too prone to look at a roentgenogram and decide how much disability a man has, following a fracture, while in reality the roentgenogram is only a small part of the entire examination. Often those patients with roentgenograms which show quite a marked anatomical abnormality will have an excellent functional result. On the other hand, some patients in whom the roentgenogram reveals little or no anatomical disturbances have a great deal of loss of function in the extremity. This is particularly true of the upper extremities. The author quotes McBride in saying that there are three fundamental factors in the evaluation of the end result; mechanical and physiological alterations, the actual functional loss, and how much the patient can compensate or readjust for the loss. Another important factor which has been pointed out is the possibility of the patient's receiving financial compensation for his injury. The author again stresses the fact that functional efficiency is much more important than the actual anatomical changes and presents several cases of fractures to illustrate his point. The article is a very good treatise on the critical evaluation of the end result in a patient with a fracture.

"EARLY OPERATION (SPINE FUSION) IN UNSTABLE LUMBOSACRAL JOINTS." Gilbert E. Haggart. Journal of the American Medical Association, CXV, 2129, 1940.

The author again calls attention to the almost unlimited possibilities of interpretation of backache, and the lack of agreement among surgeons in regard to the pathogenesis of low-back pain. He groups the cases as follows: Group I, older persons who have received conservative treatment over a period of years; Group II, younger patients treated by arthrodesis operations. No case was included which suggested the diagnosis of ruptured intervertebral disc.

The author discusses the subject of congenital anomalies of the low back, and states his adherence to the belief that such anomalies do produce symptoms through faulty mechanics or when the ligaments and muscles become "decompensated." He lists the mechanical faults as unstable lumbosacral facets, bone defects in the posterior elements of the lumbosacral vertebrae, transitional vertebrae, spondylolisthesis, abnormally acute lumbosacral angle and posterior displacement of the fifth vertebra on the sacrum, and narrowing of the lumbosacral disc.

He concludes that most patients who do not respond to conservative treatment should be fused. In retrospect, he concludes (1) that patients receiving compensation should not be fused until after a settlement has been made; (2) that no emotionally unstable or psychiatric patients should be fused; and (3) that elderly patients should not be fused.—EARL D. McBRIDE.

INTERNAL MEDICINE

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"THE CONFUSING MULTIPLICITY OF SEROLOGIC TESTS FOR SYPHILIS." Joseph Earle Moore, M.D., Baltimore, and Harry Eagle, M.D., Baltimore. J.A.M.A., July 26, 1941, Volume 117, Number 4, Pages 243-247.

Doctor Moore and Doctor Eagle have written this article because of the confusion resulting from the numerous technics of testing for syphilis. In 1935, the country's leading serologists participated in a conference for "The Evaluation of Serodiagnostic Tests For Syphilis in The U.S." It was hoped that as a result of this conference the excessive number of technics previously in use might be reduced to a few standard procedures suitable for general adoption and the long-sought standardization of serologic tests thereby furthered.

Unfortunately for this hope, not a few but many technics were found to give satisfactory results, and the group of tests appearing below were given tacit approval by the committee charged with the evaluation of the results. Approved Serologic Tests—Kolmer and Eagle modifications of the Wassermann technic; Kahn, Kline, Eagle and Hinton standard Flocculation tests; the Kahn presumptive and the Kline exclusion tests (supersensitive, for special purposes).

Since this meeting many other new modifications have been published and this veritable maze of proper names and plus marks leaves one and all completely befuddled, e.g. the following actual report on a patient with no clinical evidence or history of syphilitic infection:

Kline diagnostic	2 plus
Mazzini	2 plus
Kahn standard	Zero
Kahn verification	Zero
New York State Complement Fixation.....	4.7 units
Eagle Complement Fixation.....	Zone (003444300)
Eagle Macroflocculation	Positive
Kolmer	440
"Pallida"	Doubtful
Kline presumptive	4 plus
Kahn presumptive	4 plus

Thus, since standardization of technic is not now attainable, some order may be brought out of existing chaos by standardization in a simpler direction—that of reporting serologic results. Towards that end the authors recommend:

1. In the interests of simplicity, clarity and the best possible utilization of the laboratory data, it is therefore advised that the proper names now used in reporting serologic tests be replaced by the generic term "Serologic Tests for Syphilis" (abbreviated "STS").
2. By general agreement, the formal laboratory report to the physician should be made on an over-all, composite basis, simply as "Serologic Tests For Syphilis—Positive," "Serologic Tests For Syphilis—Doubtful," or "Serologic Tests For Syphilis—Negative."
3. The results of the individual tests, on which that over-all summation is based, may be given on the reverse of the serologic report.
4. Finally, and highly important, the serologic report slip should contain an informative statement as to the significance of this composite report.

UROLOGY

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"Preliminary Report On the Use of Sulfapyridine and Sulfathiazole In Gonorrhea." Donald K. Hibbs, Alexander A. Day, Ruth W. Jung and J. Morrison Brady. Northwestern University Medical School, Chicago. The Journal of Urology, May 1941.

Experience with the use of sulfathiazole and sulfapyridine in the treatment of gonorrhea in the male are reported.

Both drugs are effective agents in the treatment of gonorrhea. Clinical symptoms of the cases followed through chemotherapy subsided earlier on sulfapyridine than on sulfathiazole. The percentage of failures was greater on sulfapyridine (17.5 per cent) than on sulfathiazole (5.26 per cent).

Toxicity judged by clinical manifestations in 378 cases and by blood and urine determinations in a limited number of cases indicate that sulfathiazole is much less toxic than sulfapyridine.

Poor patient co-operation probably accounts for the large number of lapsed cases. Lack of symptoms due to chemotherapy is suggested as the reason for this negligence.

"Diagnosis and Treatment Of the Venereal Diseases." Circular Letter Number 18, A.M.A. Journal, May 1941.

In the Medical Preparedness section of this issue of the Journal is an epitome of the recommendation from the Subcommittee on Venereal Diseases on the diagnosis and treatment advised for the five venereal diseases.

In a concise form it places before the doctor the salient facts as regards the treatment of these diseases; an outlined form if followed by the physician should promote a more effective quality of medical care for these cases. Of particular importance in this summary is the modern classification and nomenclature of the various phases of syphilis.

This classification must be used in order to report properly to this disease central authorities.

Every doctor who has the responsibility of venereal disease patients in his practice should carefully read this article.

TRY PABLUM ON YOUR VACATION

Vacations are too often a vacation from protective foods. For optimum benefits a vacation should furnish optimum nutrition as well as relaxation, yet actually this is the time when many persons go on a spree of refined carbohydrates. Pablum is a food that "goes good" on camping trips and at the same time supplies an abundance of calcium, phosphorus, iron and vitamins B1 (thiamine) and G (riboflavin). It can be prepared in a minute, without cooking, as a breakfast dish or used as a flour to increase the mineral and vitamin values of staple recipes. Packed dry, Pablum is light to carry, requires no refrigeration. Here are some delicious, easy-to-fix Pablum dishes for vacation meals:

Pablum Breakfast Croquettes

Beat three eggs, season with salt, and add all the Pablum the eggs will hold (about 2 cupfuls). Form into flat cakes and fry in bacon fat or other fat until brown. Serve with syrup, honey or jelly.

Pablum Salmon Croquettes

Mix 1 cup salmon with 1 cup Pablum and combine with 3 beaten eggs. Season, shape into cakes, and fry until brown. Serve with ketchup.

Pablum Meat Patties

Mix 1 cup Pablum and 1½ cups meat (diced or ground ham, cooked beef or chicken), add 1 cup milk or water and a beaten egg. Season, form into patties, and fry in fat.

Pablum Marmalade Whip

Mix 2/3 cup Pablum, ¼ cup marmalade, and ¼ cup water. Fold in 4 egg whites beaten until stiff and add 3 tablespoons chopped nuts.



Petrolagar*

As a Bland Cleansing Enema

- The effect of a Petrolagar cleansing enema is to soften thoroughly the inspissated stool, and help establish a complete, comfortable bowel movement. Petrolagar serves this purpose well because it is miscible with water, a virtue that enables an even dissemination of minute oil globules throughout the residue in the colon.

The Petrolagar cleansing enema is preferable to irritating soap solutions in either the home or the hospital, because of its gentle, but thorough softening action.

Consider the routine use of the Petrolagar cleansing enema in the hospital, postoperatively or in obstetrical cases, where normal bowel habits are temporarily disturbed.

HOW TO USE: Mix 3 ounces of Petrolagar Plain with water sufficient to make one pint to one quart, as desired, and administer by gravity. For retention enema administer at body temperature.



**Petrolagar—The trademark of Petrolagar Laboratories, Inc., brand emulsion of mineral oil . . . Liquid petrolatum 65 c.c. emulsified with 0.4 gm. agar in a menstruum to make 100 cc.*

OFFICERS OF COUNTY SOCIETIES, 1941



COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Alfalfa.....	H. E. Houston, Cherokee	L. T. Lancaster, Cherokee	Last Tues. Each 2nd Mo.
Atoka-Coal.....	J. B. Clark, Coalgate	J. S. Fulton, Atoka	
Beckham.....	H. K. Speed, Sayre	T. W. Pratt, Cheyenne	Second Tues, eve.
Blaine.....	L. R. Kirby, Okeene	W. F. Griffin, Watonga	
Bryan.....	J. T. Colwick, Durant	W. K. Haynie, Durant	Second Tues, eve.
Caddo.....	E. W. Hawkins, Carnegie	G. E. Haslam, Anadarko	
Canadian.....	P. F. Herod, El Reno	A. L. Johnson, El Reno	Subject to call
Carter.....	R. C. Sullivan, Ardmore	H. A. Higgins, Ardmore	
Cherokee.....	P. H. Medearis, Tahlequah	Isadore Dyer, Tahlequah	
Choctaw.....	C. H. Hale, Boswell	Floyd L. Waters, Hugo	Thursday nights
Cleveland.....	D. G. Willard, Norman	Phil Haddock, Norman	
Comanche.....	G. G. Downing, Lawton	Donald Angus, Lawton	Third Friday
Cotton.....	Mollie Scism, Walters	R. M. Van Matre, Walters	
Craig.....	Powell L. Hays, Vinita	Paul G. Sanger, Vinita	
Creek.....	P. K. Lewis, Sapulpa	Wm. P. Longmire, Jr., Sapulpa	Third Tuesday
Custer.....	C. Doler, Clinton	W. C. Tisdal, Clinton	4th Thursday
Garfield.....	V. R. Hamble, Enid	John R. Walker, Enid	Wed. before 3rd Thur.
Garvin.....	Robert M. Alexander, Paoli	John R. Callaway, Pauls Valley	3rd Thursday
Grady.....	Turner Bynum, Chickasha	Roy E. Emanuel, Chickasha	
Grant.....	I. V. Hardy, Medford	E. E. Lawson, Medford	
Greer.....	J. B. Lansden, Granite	J. B. Hollis, Mangum	1st Wednesday
Harmon.....	Samuel W. Hopkins, Hollis	Wm. M. Yeagan, Hollis	
Haskell.....	Wm. S. Carson, Keota	N. K. Williams, McCurtain	First Friday
Hughes.....	William L. Taylor, Holdenville	Imogene Mayfield, Holdenville	Last Monday
Jackson.....	Raymond H. Fox, Altus	Willard D. Holt, Altus	
Jefferson.....	D. B. Collins, Waurika	J. I. Hollingsworth, Waurika	3rd Thursday
Kay.....	J. G. Ghormley, Blackwell	L. I. Wright, Blackwell	
Kingfisher.....	F. C. Lattimore, Kingfisher	H. Violet Sturgeon, Hennessey	
Kiowa.....	J. M. Bonham, Hobart	J. L. Adams, Hobart	
Le Flore.....	G. R. Booth, Le Flore	Rush L. Wright, Poteau	First Wednesday
Lincoln.....	J. W. Adams, Chandler	C. W. Robertson, Chandler	Last Tuesday evening
Logan.....	Wm. C. Miller, Guthrie	J. L. LeHew, Jr., Guthrie	
Marshall.....	John L. Holland, Madill	J. F. York, Madill	
Mayes.....	S. C. Rutherford, Locust Grove	E. H. Werling, Pryor	
McClain.....	B. W. Slover, Blanchard	R. L. Royster, Purcell	
McCurtain.....	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow	4th Tues. eve.
McIntosh.....	D. E. Little, Eufaula	W. A. Tolleson, Eufaula	2nd Tuesday
Murray.....	P. V. Annadown, Sulphur	O. D. Thomas, Sulphur	
Muskogee.....	A. N. Earnest, Muskogee	S. D. Neely, Muskogee	1st & 3rd Monday
Noble.....	J. W. Francis, Perry	C. H. Cook, Perry	
Okfuskee.....	J. M. Pemberton, Okemah	L. J. Spickard, Okemah	2nd Monday
Oklahoma.....	George H. Garrison, Okla. City	W. W. Rucks, Jr., Okla. City	4th Tuesday
Okmulgee.....	I. W. Bollinger, Henryetta	M. D. Carnell, Okmulgee	2nd Monday
Osage.....	T. A. Ragan, Fairfax	George Hemphill, Pawhuska	2nd Monday
Ottawa.....	J. W. Craig, Miami	L. P. Hetherington, Miami	Last Thursday
Pawnee.....	M. L. Saddoris, Cleveland	Robert L. Browning, Pawnee	
Payne.....	A. B. Smith, Stillwater	Haskell Smith, Stillwater	3rd Thursday
Pittsburg.....	W. H. Kaeser, McAlester	Edw. D. Greenberger, McAlester	3rd Friday
Pontotoc.....	E. M. Gullatt, Ada	R. E. Cowling, Ada	1st Wednesday
Pottawatomie.....	R. M. Anderson, Shawnee	Clinton Gallaher, Shawnee	1st & 3rd Saturday
Pushmataha.....	E. S. Patterson, Antlers	D. W. Connally, Antlers	
Rogers.....	W. A. Howard, Chelsea	P. S. Anderson, Claremore	1st Monday
Seminole.....	Claude S. Chambers, Seminole	Mack I. Shanholtz, Wewoka	
Stephens.....	E. C. Lindley, Duncan	John K. Coker, Duncan	
Texas.....	L. G. Blackmer, Hooker	Johnny A. Blue, Guymon	Subject to call
Tillman.....	T. F. Spurgeon, Frederick	O. G. Bacon, Frederick	
Tulsa.....	J. C. Brogden, Tulsa	Roy L. Smith, Tulsa	2nd & 4th Mon. Eve.
Wagoner.....	H. K. Riddle, Coweta	S. R. Bates, Wagoner	
Washington-Nowata.....	S. A. Lang, Nowata	J. V. Athey, Bartlesville	2nd Wednesday
Washita.....	A. S. Neal, Cordell	James F. McMurry, Sentinel	
Woods.....	C. A. Royer, Alva	O. E. Templin, Alva	Last Wednesday
Woodward.....	Joe L. Duer, Woodward	C. W. Tedrowe, Woodward	

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Discussion of Certain Physiological Problems in the Treatment of Peptic Ulcer*

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MUSKOGEE, OKLAHOMA

In the treatment of any condition on which the last word has not been said, it is well from time to time to review the contemporary information concerning this problem. The treatment of peptic ulcer, both surgically and medically, has been a moot question for a 100 years, or more. Gradually, through the years, more and more is being found out concerning this condition but much remains to be solved, and as a whole, the treatment is far from satisfactory.

The purpose of this paper is, first to discuss the present day physiological opinion with reference to normal digestion and its association with the normal blood picture; then to apply these to the problem of an obstructing duodenal ulcer, with its surgical treatment and complications.

Pavlov¹ divided gastric secretion into three phases: (1) The psychic phase, in which sight, smell and taste of food effect the secretion of gastric juices through the medium of the vagi nerves, and developed the theory of conditioned reflex in this respect. (2) The gastric phase, which is brought about by the presence of food in the stomach. This also includes water. (3) The intestinal phase, which is brought about by the digestion of food and the absorption of the metabolites produced. Edkins² brought forth the hypothesis that there is secreted a pyloric or antral hormone, to which he gave the name gastrin, and which he states regulates the gastric phase of gastric secretion, especially with reference to the secretion of hydrochloric acid. This is assumed by some to partake of the nature of histamine, both in its chemistry and in its action upon the acid secreting cells of the stomach.

Throughout the intestinal tract the only

place that hydrochloric acid is secreted is from the fundic portion of the stomach. The contents of the stomach and the intestinal tract are roughly isotonic with the blood plasma. In the upper portion of the tract this osmotic balance is maintained largely through sodium chloride. Further along in the intestinal tract the sodium chloride proportion gradually gives way to an increasing proportion of sodium bicarbonate. The blood plasma, under normal conditions of digestion, is maintained at a fairly constant level of from 7 to 7.5 Gm. per cent sodium chloride.

The normal balance of sodium chloride in the body is maintained by a daily intake of from one to two grams in the food itself, and from 2 to 8 Gm. added as seasoning or as a condiment. Also, there is added to the intestinal contents, in addition to the daily oral ingestion of sodium chloride, from 8 to 10 liters of salt-containing solution, made up of gastric juices, bile, pancreatic secretion and succus entericus. Of all this sodium chloride, approximately 95 percent is absorbed further down along the intestinal tract, and the normal daily loss of salt in the stool is usually less than 0.5 Gm. per day. It is also lost from the body in two other normal ways. The first is through sweat glands and varies considerably according to their activity. The other is through the kidneys, through which the usual daily excretion is from 3 to 8 Gm., but in addition the kidneys have the power of excreting a much larger amount if an excess is present.

Now let us consider the physiological situation in the case of a sick patient who is to be operated upon, or has been operated upon, for an obstructing duodenal ulcer. These patients may come in dehydrated from vomiting and in a poor nutritional state, with con-

* Read before the Section on General Surgery, Annual Session, Oklahoma State Medical Association, May 20, 1941, in Oklahoma City.

sequent low plasma proteins and blood electrolytes.

In the case of loss of gastric secretions, or the upper intestinal contents, bile or pancreatic secretions, through some form of fistula, nature has, up to a certain point, the power of stabilizing the osmotic balance between the contents of the intestinal tract and the blood stream by secreting, by way of the kidneys, both water and electrolytes, chiefly in the form of sodium bicarbonate, and this balancing process will proceed down to a breaking point at which the acid base equilibrium is forced to yield to the demand of osmotic equilibrium³, so that, superimposed upon the state of alkalosis which has been produced, there is also a state of salt depletion, dehydration, and a reduction of osmotic pressure. In addition there develops an N.P.N. retention.

For the simple loss of stomach or intestinal contents, the replacement of an equal amount of normal saline or Ringers' solution in the body fluids is sufficient. To this, however, should be added the amount of sodium chloride necessary for the normal economy of the body. There is an interesting consideration that arises in this connection. Unless the intake of food contains an amount of sodium chloride sufficient to make it isotonic with the blood stream, the electrolytes of the blood stream are drawn into the intestinal tract in an effort to balance this osmotic pressure. In this way a person vomiting a great deal, or who is subjected to intestinal suction, may be severely, and sometimes quite rapidly, depleted of his blood electrolytes. Therefore, it would seem reasonable that, under such conditions of electrolytic loss, the replacement of fluids, whether by mouth, by Levine tube, or by enterostomy tube, should contain sodium chloride in amounts comparable to a normal saline solution, and not plain water.

At this point let us consider the effect of hypoproteinemia upon the physiologic situation. The normal protein content of the blood at 7 to 7.5 Gm. percent is maintained through the normal digestive processes in the patient who is taking and digesting a balanced diet. Should this percentage fall to what is termed the critical point of 5 Gm. percent, then the patient is in danger of developing certain complications incident to the hypoproteinemic state. First, there is a tendency to edema, due to salt retention in the tissues, and in such a condition it is very easy to give the patient too much salt and have him rapidly gain weight from hydre-mia. In the very sick patient there is a tendency to salt retention. Failure to recognize this can easily lead to the death of the patient. Another condition that can develop, and to which attention has been called by

Ravdin⁴, is that, for some reason rather difficult to explain, the motility of the intestinal tract is reduced so that vomiting may result and the condition may become gradually worse, rather than better. And again, due to the tendency to edema, there may be edema at the suture line of an anastomosis, between the stomach and jejunum, increasing materially the emptying time of the stomach, or doing away with it altogether. To combat this situation, the simplest method is a blood transfusion, or still better, the transfusion of plasma. It is estimated that it takes 500 c.c. of plasma to maintain the body in nitrogen equilibrium, and unless the patient is anemic, it is far better to give plasma rather than whole blood. The administration of glucose, either in 5 percent or in the hypertonic solution, 10 percent, which requires less fluid, is advisable as it is easily utilized by the body and acts as a conservator of protein metabolites. Certain studies have been made upon the use of certain of the amino-acids by introducing them directly into the blood stream. It seems that, under proper conditions, the protein balance can be maintained this way, but there is some question as to whether or not such proteins are utilized in the tissue building processes. The old theory that proteins, to be utilized fully by the body, have to be conditioned in some way by the intestinal mucosa, seems to hold. Amino-acids ingested are so used.

It has been recognized for some time that hypoproteinemia has a marked effect upon fibroblastic proliferation⁴, and that it delays this process, and in so doing retards wound healing. Associated with this there is usually found a vitamin C deficiency which, according to Lanman and Ingalls⁵, is an important physiologic factor in this complication.

The necessity for the introduction of fluid, glucose, salt and plasma is done away with immediately the patient begins to have normal digestive processes, and any patient who can digest a balanced diet, and who is putting out from 1,200 to 1,500 c.c. of normal urine a day, does not need to be worried about.

The treatment of massive hemorrhage from a duodenal ulcer has recently come up for considerably more discussion in the literature. The present trend of thought seems to be about as follows: That the man under 40 who has a massive hemorrhage is probably best treated conservatively, and his blood loss simply replaced by transfusion; that the same situation occurring in a man past 40, is more dangerously treated conservatively than treated operatively, but if operated, the operation should be done within the first 48 hours. He should be given a

large transfusion to see whether or not he will react from shock, and if he does react, he should be immediately operated upon. Experience has shown that if more than 48 hours have transpired, transfusion cannot sufficiently revive him to the point where an operative procedure can be of much help.

The type of operative procedure that is used in obstructing ulcer is variable and there is considerable divergence of opinion as to just what is the best thing to do. In some quarters, a simple posterior gastrojejunostomy is performed. In other quarters, various types of resections are practiced. Some adhere to the theory of Edkins² and think that probably all that is necessary to remove is the pylorus and antrum. Others, believing that this is of no avail, insist upon extensive resections of the stomach, and some investigation⁶ has gone to prove that as much as 200 sq. cm. of the stomach must be removed in order to approach achlorhydria, tested by the injection of one to three doses of 0.5 mg. of histamine. The mere fact that a gastrojejunostomy alone, whether combined with resection or not, reduces the gastric acidity to some extent, and the amount of this reduction does not reach its maximum until several months afterwards, is due to two causes. First, to the decreased emptying time of the stomach in all cases of anastomoses, and second, to the apparent effect of the regurgitant intestinal contents upon the stomach mucosa, bringing about a certain amount of decrease in the secretory activity of the acid secreting cells from some distance away from the stoma.

Occasionally a gastrojejunalcolic fistula

results from a simple gastrojejunostomy. Some ulcer cases seem very prone, for some unknown reason, to reform ulcers. Gastric acidity has been pretty well shown⁷ to play a part in this, which, together with the nervous temperament of the patient, probably has much to do with the occurrence and recurrence of ulcers. Recent experiments on the human in these cases⁸ would seem to show that the diarrhea, loss of weight and progressive debility associated with this condition is due, not to the dumping of the stomach and small intestinal contents into the colon, but rather to some of the contents of the colon passing down the small intestine and, because of the chemical and biological changes incident to this, a diarrhea develops.

CONCLUSIONS: From the above discussion it can be clearly seen that the management of any serious abdominal case necessitates a rather thorough working knowledge, on the part of the surgeon, of the physiological phenomena involved, and that he may get his patient into serious difficulties both by doing too little or too much.

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Etiology and Management of Contraction Ring Dystocia*

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MEMPHIS, TENNESSEE

The recognition of the value of prenatal care, pelvimetry and aseptic care at the time of labor have done much to reduce the hazards of child-birth. Despite such advantages to the parturient woman, much is yet to be desired before assurance can be given to the patient as to the ultimate outcome of her labor.

For many years equal discussions have arisen relative to the etiology and management of abnormal uterine contractions oc-

curring throughout any period of pregnancy; as well as to those cases without mechanical obstruction failing to deliver after long hours of labor.

Speculation relative to the cause of abnormal uterine contractions has attributed this condition to be due to many causes,—principally, to faulty innervation or musculature of uterus; to glandular imbalance between the estrogenic and progestin factors; to calcium deficiency; or, to a psychogenetic basis.

Our own investigation over many years, indicates that the psycho-genetic factor is

* From Department of Obstetrics, University of Tennessee School of Medicine.

* Read before the Section on Obstetrics, Annual Session, Oklahoma State Medical Association, May 21, 1941, in Oklahoma City.

present in most of the cases encountered; but it does not have sufficient basis to preclude other associated causes. Unquestionably, it plays an important part; for there has been a lessening number of these cases since the introduction of analgesia. It has been observed that these contractions still continue to occur in patients whose psychic reaction has been eliminated by producing amnesia.

Moreover, after long hours of labor, it was observed that many of such patients showed evidence of exhaustion, acidosis and even shock at the time of delivery. Then after believing that these abnormal uterine contractions might be accelerated or, at least, intensified by the ever-present acidosis as a result of this complication, it was decided to study acidosis. It was found that acidosis could be prevented in the average normal case by the proper administration of fluids and foods. But where the labor was unduly prolonged the acidosis (as estimated by the CO₂ combining power of blood) increased during the first stage, reached its height during the second, and returned to normalcy during the third stage of labor. It was concluded that this ever-present acidosis was from another source; for fluids and foods had been administered and repeated examinations of the urine had revealed the absence of acetone and diacetic acid.

Since acidosis was so frequently observed in all types of abnormal acting uteri, it was felt that there must be some direct relationship. At least the acidosis intensified these contractions and probably accounted for the increasing spasm of the uterine musculature. Moreover, it was observed that in many cases, particularly those at term, when the acidosis was neutralized that the uterus again resumed rhythmic contractions followed by spontaneous labor.

Experimental work reported elsewhere¹, indicates that this acidosis was due to increased lactic acid accumulation in the blood, probably from excessive muscular and uterine activity. It was likewise shown that many of the mild cases of acidosis could be prevented by the oral administration of a teaspoon of soda bicarbonate every four hours, and that each dose would elevate the blood CO₂ combining power 4 point volume percent; while moderate or even extreme acidosis could not be corrected by the usual methods such as intravenous administration of glucose with or without insulin or, blood transfusion.

Clinically and experimentally in dogs², it was demonstrated that 500 to 1,000 c.c. of a 1 percent solution of soda bicarbonate could be given intravenously; and that without harm was effective in overcoming the acidosis.

Since it was evident that there was some relationship between abnormal uterine contractions and acidosis, and that overcoming acidosis was effective in controlling or restoring the uterus to normal activity, it was decided to study the anatomy of the uterus in order to determine which layer of muscle was involved in this abnormal mechanism. Pride and Simkins³ dissected the musculature of the uterus, reviewed the literature and reported the long-held opinion that the uterus was composed of three layers of muscle not sharply differentiated, but strongly interlaced.

The longitudinal layer is found under the peritoneum. Between these longitudinal fibers are transverse fibers; the fibers of the middle muscular layer run radially; the innermost layer, adjacent to the sub-mucosa, contains circular and oblique fibers; and just above the internal os is a thicker segment of circular fibers which always forms the so-called physiological retraction ring.

Pride's study indicates that the circular fibers act comparable to intestinal peristalsis and that contraction rings are physiologic and tend to propel the fetus downward. Where waves of contractions are normal with periods of relaxation, the uterus relaxes and the longitudinal fibers retract or shorten. Thus, by their pull they may loosen the circular fiber. Failure of the longitudinal fibers to loosen, or abnormal stimulation of the circular fibers, causes such fibers to become spasmodic. This results in a contraction or constriction ring. Continued constriction of the circular fibers by disturbed nerve impulses probably stimulates the normal retraction to a pathologic one, and thus produces what appears to be multiple rings.

I am inclined to believe that excessive stimulation of the nerve supply to the circular fibers accounts more for this abnormality than other factors. It is most likely that the uterine muscular layers have separate and distinct routes of innervation comparable to the iris of the eye.

The iris is composed of circular and transverse fibers to which stimulation of the sympathetic nerves causes the pupil to dilate, while stimulation of its transverse fibers by the para-sympathetic nerves causes it to contract.

Rudolph is inclined to believe that this disturbance of normal uterine contraction may be neurogenic or myogenic. Others believe this purely neurogenic.

Our studies lean toward the neurogenetic basis as the predominating influence. But, unfortunately, the exact anatomy of the intrinsic nerve supply and the conduction routes of nerve impulses of the uterus have yet to be demonstrated.

It was not until Goltz and Freusberg⁴, in

1874, demonstrated that a dog became pregnant and delivered with the spinal cord cut, that a clearer basis for the autonomic system became established. Since this became a fact, all kinds of research and diverse opinions have been made relative to its action. Today, most physiologists agree that when the autonomic nervous system is stimulated its impulses either excite or inhibit the action of the involved organ. These impulses also liberate chemical substances at the neuro-effector junction, which are absolutely essential for the completion of the impulses from the nerve to the organ stimulated. One of these substances is acetylcholine. To this, the response elicited is said to be "cholinergic." Another substance is called sympathin, which is epinephrine-like in action with its response said to be "adrenergic."

Generally speaking, stimulation of the sympathetic fibers results in the release of sympathin which has a relaxing effect on the intestines, while stimulation of the para-sympathetic with the liberation of acetylcholine results in a contracting effect. The opposite of this is true for blood vessels.

With these established facts relaxation or contraction of the uterus would follow stimulation of the sympathetic nerves; while contraction or relaxation would follow stimulation of the para-sympathetic nerves. But again clinicians and research workers have been unable to determine just which layer of the uterus is supplied by sympathetic and para-sympathetic nerves.

Rudolph and Ivy's⁵ work indicates that when various segments of the sympathetic and para-sympathetic fibers are stimulated then various segments of the uterus relax and contract. This finding is confusing; because sympathetic fibers may transmit cholinergic as well as adrenergic impulses.

However, at times it has been noted that the normally expected response to nerve stimulation may be reversed in the pregnant uterus. In 1906, Cushny and Dale⁶ designated such as a "pregnancy-reversal" response. This observation of the "pregnancy-reversal" may be demonstrated by the administration of epinephrine as well as by direct nerve stimulation. This "pregnancy-reversal" response is probably dependent upon the presence of large quantities of progesterone found in the ovary during pregnancy. Thus, epinephrine injected in the pregnant woman would cause contractions of the uterus, while acetylcholine injections would cause relaxation.

Therefore stimulation of the autonomic nervous system with its normal response or with the pregnancy reversal action may well account for a large number of patients who suffer from abnormal uterine contractions during pregnancy or labor.

I believe that these abnormal uterine contractions are due to faulty nerve mechanism; for many patients suffering from this complication are nearly always highly emotional, react sharply to such stimulants as shock, fear and joy. They are usually apprehensive and have always had a low pain tolerance. If some patients are given assurance and mild sedatives, oftentimes contractions cease. Occasionally, progestin in large doses given daily will effect a cessation of contractions. Other cases respond to a lesser degree to the administration of large doses of calcium. But, up to the present time, severe cases have responded best to magnesium sulphate given intravenously or intramuscularly. Acetylcholine has not been tried prior to the onset of labor.

Despite all forms of above therapy, it is now recognized that a small group of these cases are forced to have the pregnancy terminated. If this is not done, in some of these cases, death of the fetus occurs from asphyxia; while, in others, the membranes rupture even though dilatation of the cervix has not occurred, infection and exhaustion follows and death may ensue. Unquestionably, Caesarian section is the best method to employ in the management of such cases.

To clarify the picture I have attempted to portray three brief case reports that indicate the severity of abnormal contractions occurring in patients before the onset of labor.

CASE REPORTS

No. 1. Mrs. A. H., seen in consultation with Dr. G. P. Rawls in 1933, St. Joseph Hospital, for uncontrollable uterine contractions of six days duration her sixth month of pregnancy. Various sedatives including morphine, the barbiturates, calcium and para-thor-mone had been administered without effect. Patient showed evidence of exhaustion from pain and loss of sleep. She was unquestionably artistic, keenly alert, very temperamental when normal, but was constantly apprehensive that her baby would be born prematurely. Magnesium sulphate was administered intravenously and subsequently intramuscularly every four hours for 48 hours. Then contraction ceased. Pregnancy continued uneventful and patient delivered normally at term.

No. 2. Mrs. A. G., a gravida 3, para 2, first seen in 1934 for painful uterine contractions during her third month of pregnancy. Nine and twelve years previously she had had two normal labors. Her physical examination was negative with the exception of her highly emotional and unstable nervous system. Calcium and calcium with viosterol were given with some apparent effect; but it was necessary that patient remain in bed most of the

time. About two weeks before the expected date of confinement, contraction became so severe that patient was admitted to the hospital. Magnesium sulphate and barbiturates were administered almost continuously but contractions were never completely controlled. The fetus perished. Medical induction was given only after Nature's efforts failed to induce labor. Patient went into active labor and after many hours the cervix became completely dilated, but descent of the fetus did not follow. A contraction ring was suspected; and after patient was under deep ether anesthesia, the hand introduced into the uterus revealed two contraction rings (one around the baby's neck, the other in upper segment of uterus). Difficult version and extraction accomplished the delivery of a still-born baby. Patient made an uneventful recovery.

No. 3. Mrs. P. W., a primipara, seen in consultation with her husband (a physician) in 1934, Methodist Hospital, for uncontrollable uterine contractions of six weeks duration, during her last month of pregnancy. Unsuccessful bag and bougie attempts had failed because of a long, closed cervix. Magnesium sulphate was given intravenously and intramuscularly at regular intervals for 48 hours until contraction ceased. Seven days later a normal spontaneous labor occurred.

Again in March 1937, during her second pregnancy, this patient was seen for painful, uncontrollable uterine contractions during her sixth month of gestation. She had been treated by her physician and her husband prior to my consultation. Magnesium sulphate was given for about four weeks until contractions ceased and patient was discharged from the hospital April 17, 1937.

Two weeks later, patient was re-admitted because of return of uterine contractions. On account of the long previous period of treatment and the inability to stop uterine contractions, abdominal Caesarian section was performed. The uterus was almost tetanic, devoid of circulation and chalk-white. The uterus did not bleed when opened. The baby was markedly asphyxiated and died in a few hours. Tubal sterilization was done to preclude the possibility of recurrence of this complication in subsequent pregnancies.

Through these above examples, it is seen that uterine contractions can be controlled during pregnancy; that often it is necessary to terminate the pregnancy; and that the recognition of the true condition would often eliminate difficult vaginal deliveries.

Clinical evidence reported elsewhere supports our concept that the normal action of

the uterine musculature through its innervation is sustained by maintaining the normal alkali-acid balance in the blood and that quite often overcoming acidosis releases contraction rings.

The restoration of slow, sluggish labors to normal action through intravenous administration of glucose or Hartmann's solution in glucose, is seen too often to report in detail.

The following is a case report of the dramatic response of a definite contraction ring dystocia:

A. H., aged 18, a colored primipara, was admitted in active labor, John Gaston Hospital Charity Service, 1934. Physical examination negative, pelvic measurements normal, fetus lying in the L.S.A. position. Labor was slow, but uterus reacted normally until complete dilatation occurred. Descent of the fetus failed to occur after six to eight hours of continued rhythmical labor. Examination revealed a localized contraction ring in the lower one-third of the uterus. The blood carbon dioxide power was 30 point volume percent. One thousand c.c. of a one percent solution of soda bicarbonate was given intravenously and within two hours spontaneous breech delivery of a living baby occurred.

Occasionally such contraction rings have failed to respond to this therapy. It was concluded that such cases probably resulted from an inadequate or abnormal-acting acetylcholine rather than the normal quantity being neutralized.

It has been reported that the largest supply of acetylcholine found in the human is in the placenta. It is felt that this unusually large supply may be necessary to fulfill the requirements of increased nerve impulses required during labor.

In 1937, Bell and Playfair² advised that acetylcholine be given in cases of prolonged labor due to weak and colicky contractions of the uterus, when stimulation and sedation had failed. They reported a favorable outcome of such cases, but did not mention contraction ring dystocia. Apparently, they also did not yield to the pregnancy-reversal response of the sympathetic nervous system; but thought that the acceleration of labor was due to the direct action of the acetylcholine in producing more regular and more intensified contractions.

It is doubtful as to whether administration of acetylcholine acts by increasing the contractions of the uterus or by replacing the deficiency in the nerve impulses. Nevertheless, such cases of contraction ring dystocia are seemingly benefited by the administration of acetylcholine.

We are replacing the acetylcholine deficiency by oral and subcutaneous administra-

tion. The use of this drug must be guarded as it is a two-edged sword. Violent reactions often occur that must be immediately overcome. Acetylcholine (mecholy) in sensitive patients or in overdosage produces a rapid drop in blood pressure, marked slowing of the heart, excessive salivation, rapid emptying of the bladder and rectum, and even death. Atropine should be given as an antidote in doses from 1/150 to 1/50 of a grain; and immediately all untoward reactions cease.

From my limited number of cases of contraction ring dystocia relieved by the administration of acetylcholine*, I am inclined to believe that it will release the obstruction in

a considerable number of cases which, heretofore, required deep inhalation anesthesia and difficult operative delivery with its high attendant fetal and maternal mortality.

* I am indebted to Mr. A. W. Veazey, Merck & Co., Inc., for cooperating and supplying acetylcholine (mecholy) used in this study.

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Fevers of Obscure Origin in Early Life*

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Anyone interested in general medicine or pediatrics sees a fairly large group of cases showing a rise of temperature, often of low grade type, in children, without any definite physical signs of disease. The temperatures in a number of this group run from one week to many weeks and still there is nothing to show the cause of it. The possibility of tuberculosis gives one more anxiety than anything else when you are in charge of a case of fever of unknown origin.

In a few words Robert Hutchinson has this to say: "Unfortunately, it is a condition which is extremely difficult to exclude, as we have no absolutely trustworthy test for it. This is the more to be regretted as general tuberculosis is almost the only cause of fever without physical signs, in childhood, which has a bad prognosis, and one would be glad to allay the anxiety of parents on the subject at the earliest moment. Unfortunately, that is impossible, and you will often be forced to 'hedge' on the tuberculosis question, saying 'the cause of the fever is so and so, or possibly tuberculosis,' and leaving time to settle the matter. I would say for your comfort that tuberculosis in these cases of obscure fever is to some extent a bogey. It is far oftener suspected and dreaded than actually present, and though it is often impossible to be sure that it is absent, yet the other causes of obscure fever, are so much more numerous than tuberculosis (common

though it be) that you may always cherish the hope that the case will end favorably."

"A daily elevation of the temperature above 99.5°, oral, is abnormal and denotes the presence of some disorder."

"Infants and children being immature organisms, as a rule, show a more severe and erratic reaction to fever. This can readily be understood when it is realized that the heat regulation center has not reached that stage of development where it can properly meet and coordinate all the intrinsic and extrinsic factors which determine body temperature." (Jenkins, Journal Oklahoma State Medical Association, April 1934). This thermolability is frequently demonstrated in the new born when we see a perfectly normal infant with one or two degrees of fever and no demonstrable disease.

Fever in the new born develops on or about the third to fourth day. It is usually attributed to dehydration or inanition. One or both are usually relieved by fluids, but we should not neglect the possibility of a causative infection.

Four cases of acute otitis media in the new born were seen and reported by Louis Parcell, N. W. Medical Journal, Dec. 1939, one on the eighth day, one on the fourth day, and two on the third day. All were promptly relieved by myringotomy.

On record at St. Anthony Hospital, new born service, several have been recently seen, including one case of acute severe pyelitis with high fever, high white count, many W. B. C. and clumps in the urine, which was

* Read before the Section on Pediatrics, Annual Session, Oklahoma State Medical Association, May 20, 1941, in Oklahoma City.

relieved in a few days by one of the sulfonamides.

When instituting a search for the cause of obscure fever, look *first* for the cause in that group of illnesses most frequently contracted in early life associated with fever, not the cause of obscure fevers. With this idea in mind and from clinical experience, a routine procedure as follows is suggested. (Kutcher—Archives of Ped. May 1936).

Given a child with a fever of undetermined origin, examine the urine, then make a careful otoscopic examination and finally examine the throat most carefully. These three diseases, pyelitis, otitis and tonsillitis are the most likely causes of fever in a child. Failing to locate the cause in any of these areas, begin at the crown and examine not only carefully but repeatedly every organ and system of organs in the body, to the soles of the feet.

1. Head, neck and ears.
2. Nose, adenoids, sinuses (acute and chronic).
3. Tonsils.
4. Mouth, with its stomatitis, carious teeth and abscess.
5. Neck, adenitis etc.
6. Thorax. Mediastinal adenitis.
7. Tuberculosis. Pulmonary, joints, abdomen, bones and peripheral glands.
8. Heart. Rheumatic endocarditis.
9. Abdomen with colitis and appendicitis and adenitis.
10. Urinary tract. More especially pyelitis.

Though, as stated in the preface of this discussion there are other conditions not belonging to this group, to be thought of.

Undulant fever, tularemia, blood stream infections etc., in which agglutination tests, skin tests and blood cultures are necessary to establish a positive diagnosis. I would like to say here, that the means of arriving at a positive diagnosis in undulant fever

seems to be a controversial problem leading to some confusion. (Dr. Hutchinson).

Allergy may be responsible for any known symptom, so it may be responsible for fever too.

We have recently experienced in an 11 months old baby that neoplasms in their early growth, may be responsible for obscure fever, but they are eventually recognized by their size and rapid growth. (Keenan).

No study of any case of prolonged fever can be considered complete without a Wasserman of the blood, and in certain cases, of the spinal fluid. Syphilis may simulate any disease in the books.

Finally, some cases of prolonged obscure fever recover without a diagnosis ever being made. (Felts). If after careful, thorough study no cause can be found and the child is not ill, it is in the vast majority of cases, not a serious matter and no cause for anxiety. This should be carefully gone into and explained to the anxious parents.

SUMMARY

At first, fever may appear to be unexplainable in such conditions as:

1. Acute sinusitis.
2. Acute cervical and submaxillary adenitis.
3. Subacute tracheo-bronchial adenitis.
4. Acute endocarditis.
5. Acute rheumatic fever.
6. Tuberculosis, though careful routine examinations and interpretations of the findings simplify the problem. Repeated intracutaneous tests etc., always remembering, "it is far oftener suspected and dreaded than actually present, and though it is often impossible to be sure that it is absent, yet the other causes of obscure fevers are so much more numerous than tuberculosis that you may always cherish the hope that the case will end favorably."

Some Everyday Problems in Pediatric Practice*

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Oliver Wendell Holmes has said that science is a first rate piece of furniture for a physician's upper chamber if he has common sense on the ground floor; but if he has not plenty of common sense, the more science he has, the worse for his patient.

Common sense has a wide variety of applications. One application may imply the intelligent and adaptive use of knowledge and experience. As an example, a physician of today in possession of a great amount of knowledge may be compared to a person with a great deal of money. The way the money is used or spent makes it a blessing or a curse, depending, of course, on the

* Read before the Section on Pediatrics, Annual Session, Oklahoma State Medical Association, May 20, 1941, in Oklahoma City.

proper or improper use of common sense. However, knowledge as applied to pediatric practice deals predominantly with the physical status of children. The introduction of psychological care into every day practice has been retarded because it has not been recognized simply as the application of common sense. Certainly the intelligent and sympathetic understanding of the emotional needs of a child is as important to his welfare as the food that nourishes his physical body.

Average newborn infants show practically the same characteristics of body and mind, and under optimum conditions of environmental influence, show a definite sequence of growth and development. At birth they weigh about 7½ pounds; they suckle to obtain food; they show emotional response to fear, anger and joy. At six months of age they weigh about 16 pounds; they continue to suckle but grasp food and other objects and put them in their mouths; they sit alone; but they no longer show fear; they even enjoy being tossed about, and laugh aloud at certain forms of entertainment.

At one year of age they weigh about 22 pounds; they no longer suckle but obtain food from a spoon or cup; they stand alone or may even walk, and use a few simple words; they show marked independence and a tendency to imitate the acts of others.

The tendency of ill-informed or misguided parents either to retard or accelerate this growth and behavior pattern or developmental sequence causes many of the problems that daily confront those of us who deal with children.

Fear on the part of the mother for the welfare of her child is a dominant phase of the maternal instinct and is especially pronounced during the first few weeks of the child's life. This fear, when uncontrolled, impairs the ability of the mother to use rational judgement. This difficulty is evidenced by the child's frequent crying, poor nursing rhythm, vomiting and restlessness. Thus the natural developmental sequence of the child is retarded.


Later on, when the child begins to feed himself, eating should be, by all odds, the most pleasant and most satisfying experience in his life. However, neglect, over

solicitude, forced feeding, anger, unpleasant surroundings or physical illness may at this time disturb the hunger reflex and poor nutrition results. This is not because of lack of dietetic knowledge, but rather from injudicious management. Thus again the natural emergence of the child into the next phase of his growth and development is retarded. The child shows this retardation by refusal to give up sucking to obtain food, failure to grow in independence, and so to develop the natural degree of intelligence, skill and emotional balance. Over training, over indulgence or too much supervision, as a form of mismanagement, produces equally disturbing results.

Obviously, parents need the guidance and counsel of physicians who recognize the requirements and responsibilities of child care. Because of fear, ignorance, superstition, folk-lore, prejudices or undue affection and anxiety for their child, many parents find difficulty in utilizing the knowledge and common sense which they ordinarily possess. Of all these, fear is the most disturbing and its control is imperative for any measure of success in rearing a child.

It has been said that improvement in mental hygiene can be accomplished only after several generations of education. However, this is not altogether true, because almost immediate results are obtained when erroneous practices or faulty attitudes are discontinued. Whether the child in effect be over-protected or neglected, he tends to return to the normal pattern when the errors of management are removed.

Naturally some of the errors can not be removed, but the parents can be taught how to have a happier and more healthful relation to their child. Parents can be shown that their children's bad habits, emotional imbalance, and abnormal physical growth are due to the failure to recognize that physical and psychological needs are inseparable. And parents may be shown that these needs can be supplied only in a pleasant environment, and by parents who radiate happiness and confidence.



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Management of Congenital Absence of the Vagina*

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OKLAHOMA CITY, OKLAHOMA

This condition has interested me for a number of years. Perhaps because I have had several cases. There are less than 500 cases reported and it is said that the condition is found once in 5,000 cases. I believe it to be more common than this, and probably in the future, due to education of the lay public, and the rapid decline in false modesty, more of these women will seek correction of their deformity.

There has always been a great deal of dispute over the embryological development of the vagina. It is agreed that the upper two-thirds in all probability arise from the Mullerian Duct system. Toward the end of the first trimester of prenatal life the ducts fuse, and the septum becomes absorbed, to form the vagina. If this fails the condition of congenital absence of the vagina occurs.

Nagel on the basis of his study of a large series of human female embryos, from 11 mm in length to term, concluded that the entire vagina and hymen are purely of Mullerian origin. Other theories are: The vagina is derived from the Mullerian ducts in the upper two-thirds, but the lower end is formed from the Wolffian ducts. Another is that the vagina and hymen are totally derived from the urogenital sinus. A fourth theory is that the vagina is mainly derived from the Mullerian ducts but the lower end as well as the hymen is formed from the urogenital sinus.

We do know there are cases where there is a shallow-pocket vagina with an absence of the upper vagina and uterus. On the other hand there have been many cases where the uterus, cervix and upper vagina were present and normal except the lower vagina was absent and therefore no opening to the outside, this condition being usually diagnosed as an atresia.

However, I question just how much importance should be placed in this developmental dispute. The condition exists, and we know that it can be corrected safely and usually successfully.

I would like to review briefly the treatment of such cases. In searching the literature one finds no settled opinion as to a universally accepted corrective procedure, either surgical or otherwise.

Considering the surgical corrections, there are a number of plans offered. The rather formidable operations of Baldwin¹ and More in which a loop of small bowel is transplanted between the bladder and the rectum, to be used as a vagina. This procedure is still done occasionally in spite of its high mortality (10 to 20 percent) probably because of the unsatisfactory results of some skin graft procedures.

Another plan is the multiple small free grafts advocated by Heppener², Kirschner³ and Wagner, and Flynn⁴. These are placed in a "made" pocket between the bladder and rectum and held there for two weeks by a mould and then the opening is kept open by intermittent dilatation.

The pedicle grafts are advocated by Grad⁵, Frank and Geist⁶, and Ward⁷. This plan comprises a full thickness graft taken from the inside of the thighs and formed into a tube which is inserted into a preformed vaginal cavity. However, this procedure is a long drawn out plan requiring a four or five stage operation, over a period of months, thus prolonged hospitalization, and too, is somewhat mutilating to the thigh, requiring post operative skin grafting.

McIndoe and Banister⁸ recently described a plan which seems relatively simple and comparatively safe. Here a vulcanite mould, the shape of a distended vagina is covered with a one piece razor thin graft nine and one-half inches long and two and one-half inches wide, taken from the thigh, and inserted in a pre-formed vaginal cavity. The labia minora freshened and sutured across its lower end, leaving a small hole anteriorly just behind the meatus for drainage. Sutures were removed in ten days, but the mould was left in for three and one-half months, the patient having been sent home in the meantime. A glass vaginal rest was worn each night thereafter for six weeks. The resultant vagina was five inches by two inches.

Counsellor⁹ of the Mayo Clinic has patterned his operation after McIndoe's, with several very good results. Wharton¹⁰ advocates the obdurator but believes the skin grafts unnecessary if the preformed cavity be kept open. I think this is the secret of success in any of these operations. The opening must be kept dilated, because if not, con-

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Figure 1 (top, left)—17-year-old, well developed female, secondary sex characteristics normal.

Figure 2 (top, right)—showing absence of vagina, and normal external genitalia; labia sewed back.

Figure 3 (center, left)—Sound in bladder, one finger in rectum, cleavage plane between being desected upwards bluntly.

Figure 4 (center, right)—Cavity between rectum and bladder completed; five and one-half inches deep.

Figure 5 (lower, left)—Hollow tube mould in place and sutured to labia minora.

Figure 6 (lower, right)—Result at the end of three weeks, with the tube out.

traction will inevitably occur. This brings up the point, would it not be better to operate these patients after their marriage. However, if not married, it should be impressed on them that they must wear some type of mould or obdurator constantly for six months and at regular frequent intervals thereafter. These statements are born out

by the three cases which I shall report, two of which were not operated.

CASE REPORTS

Case 1. (R G.). Admitted Feb. 16, 1938. Discharged March 16, 1938, University Hospital. This white female, age 24, had been married seven months. States that at the age of 13 years she developed cyclic attacks

of pain of definite regularity. At no time has she had any passage of blood or mucus from the genitals. The patient further stated that prior to her marriage she had no knowledge of any abnormality of development but discovered the absence of the vagina afterward. She admitted experiencing normal sexual excitement and thinks she has had a "climax" on several occasions.

Examination revealed: A normally developed woman of 24 years, with typical feminine contour and hirsutes, well developed breasts. External genitalia normally developed to gross inspection, typical feminine hirsutes, clitoris and labia normal. The hymen was normal to inspection but closer examination revealed no opening. Rectal examination showed no evidence of vagina. A pouch could be produced by deep pressure against hymenal dimple. A rudimentary band, (evidently an embryonic remnant of fusion of the Mullerian ducts,) could be palpated in the region where the cervix should have been. Both ovaries were palpable in their normal location.

IMPRESSION: 1. Congenital absence of vagina and uterus. 2. Cyclic ovulatory pain.

A possible surgical correction was explained to patient and family but was deferred because patient's husband was then confined to a mental institution but was to be discharged in one month. She did however consent to a pelvic laparotomy for removal of appendix and closer examination of internal genitalia. She was operated March 4, 1938, and the following findings were recorded: The appendix was elongated, distended, and markedly injected. This was removed. Both tubes were present and normal extending down into pelvis and fusing in a fibrous band, apparently a remnant of the Mullerian ducts. Both ovaries were well suspended on each side and contained several follicular cysts, which were not opened. She made an uneventful recovery and was discharged on the twelfth post operative day. She returned seven months later and stated that marital relations were much more satisfactory and wondered if any further operation would be necessary. Examination revealed a vaginal pouch fully three and one-half inches deep and two inches wide lined with moist mucus membranes, which could be made deeper without causing pain by applying pressure. She was advised that it could not be improved upon by surgical measures.

Case 2. (M. D.). This white girl, age 18, came to the Out-Patient Department with a history of never having menstruated. She had never experienced any cyclic symptoms of pain or cramping. Examination revealed a normally developed female of 18 years, attractive in appearance, with normal feminine contour of breasts, hips, extremities, and normal hirsutes. The external genitalia

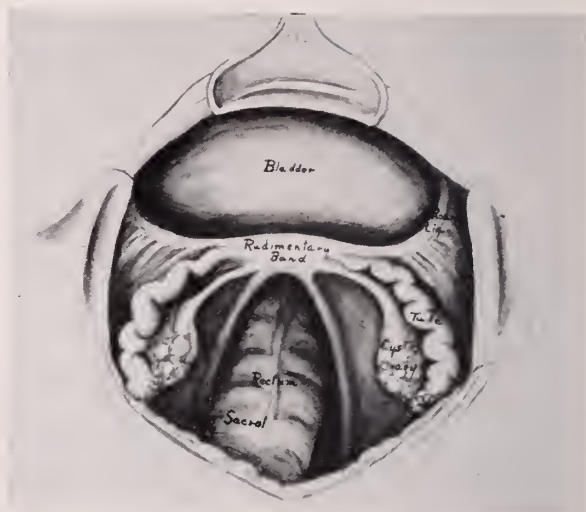


Figure 7. Interior of pelvis as found in three cases, showing an absence of uterus.

were normal. There was no opening at the hymen dimple. Rectal examination revealed an absence of vagina, a transverse rudimentary band where the uterus should have been. The ovaries were palpable in the cul-de-sac. Deep pressure in hymenal region could formulate a pouch about one inch deep.

Endocrine therapy in the form of anterior pituitary like hormone, oestrone, and desiccated thyroid, was given in the hopes of stimulating vaginal mucosa, and at the time daily dilatation of vaginal pouch was done. Surgical correction was ruled out by family prejudice. She remained in the hospital for two months and the forcible dilations were made every day. At the end of this time there was a vaginal pouch two and one-half inches deep and indications that it would deepen should patient marry and have marital relations. She returned to the Hospital in six weeks with acute appendicitis. A mid-line incision was made and the following findings recorded. The bladder dome was advanced unusually high on parietal peritoneum. The ovaries were normal in size and prolapsed in the cul-de-sac. The right tube was normal except that it was unusually large. Both tubes were united at the proximal ends by a rudimentary band of fibrous tissue. The uterus and cervix and vagina were absent. The ureters were found to merge at a point just below the central point of rudimentary Mullerian remnant, thus making it impossible to penetrate through to the previously "made" vagina without injuring bladder or ureters. The appendix was found bound down with a large bulbous tip, and showed gross evidence of acute infection. Appendectomy was done. The rudimentary band was shortened by plication and then suspended to anterior abdominal wall in order to suspend the ovaries. Her convalescence was normal and follow up ex-

aminations revealed a vaginal pouch about two inches deep, thus having contracted down somewhat. But there was no scar tissue present and the lining was mucosal in character and gave the impression that under further dilatation it would deepen sufficiently for marital relations.

This patient did not marry and returned to the out-patient-department in six months. The vaginal pocket which had been made by manual dilatation had contracted down to barely more than a deep dimple.

Case 3. (G.P.). This patient, age 17, unmarried, came to the office because she had never menstruated. She also complained of severe acne over her face and body, which she attributed to this fact. Other than these findings, her past history was negative and her general physical condition was excellent. The secondary sex characteristics were well developed and the external genitalia normal. There was only a shallow dimple at the hymenal site and obviously a complete absence of the vagina. On rectal bimanual no uterus could be palpated, but here again a nub or band could be felt at the site of the cervix. Also, the ovaries could be palpated in the cul-de-sac.

An operation was done, patterned after those by McIndoe and Counseller. Two moulds were made by a dental equipment company, to be sure of the proper size, however, a large stiff rubber tube mould was finally decided upon. The reason for this was to afford better drainage. A cleavage plane was found between the rectum and bladder, and the space was carried high, to the peritoneal reflection. Dr. John Burton was kind enough to cut several large thin grafts from the inner side of the thigh, and these were sutured around the tube. The tube was then placed in the preformed vagina, and sutured to the margins of the entroitus. At the end of two weeks the tube was removed and the cavity washed with a two percent boric acid solution. The graft had taken well except in one small area which showed granulation. The tube was replaced and the patient was discharged on the twenty-first post-operative day. She was taught how to remove the tube, cleanse it and replace it. The importance of keeping the tube in situ was strongly emphasized. At the end of six weeks, the made vagina was four inches deep and one and one-half inches in diameter, and covered with soft epithelium.

CONCLUSIONS:

1. The origin of the vagina is in all probability from two embryological sources.

2. Operation for this condition today is simple and safe.

3. The most important phase of the management is to keep the preformed vagina open and dilated.

4. A tubular mould is preferred over a solid one because it affords better drainage.

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DISCUSSION

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I have enjoyed Doctor Sadler's paper and I wish to compliment him upon his excellent manner of presentation of a delicate subject. My association with him in the management of one of the cases reported was in an advisory capacity, in the consideration of the lining of the newly formed vaginal cavity.

The usual procedure in the lining of cavities elsewhere in the body is by means of a "Stent Graft," but I felt that in this instance such would not be adequate.

After reviewing the literature upon the subject and going over the various methods previously reported, I was of the opinion that none of them was completely satisfactory.

In brief, the problem presented to me was the lining of a potential cavity in a region impossible to thoroughly prepare pre-operatively; secondly, when this potential space had been surgically made, it was so situated that absolute immobilization was impossible; thirdly, since it had been freshly dissected out, there would of necessity be some oozing and serious discharge which would require drainage.

I evolved the idea of using a semi-rigid rubber tube one inch in diameter and five inches in length. A split graft taken from the inner side of one of the thighs was then sewed skin side next to the tube, leaving the fresh side exposed. This was then inserted into the space previously prepared, and the exterior end of the tube was anchored to the labia by sutures. I felt this arrangement would bring the skin in fair approximation to the tissues that we were endeavoring to cover; secondly, that it would permit some movement without danger; thirdly, since the area was being left open, serous discharges would have exit; and lastly, it would maintain the surgically created cavity as a cavity and not allow the tissues to collapse and grow together.

Heparin: Its Practical Use in Thrombosis and Embolism*

PHILIP M. SCHRECK, M.D.

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Recently there has come to our attention a therapeutic agent which offers possibilities in the difficult problem of prevention and treatment of thrombosis and embolism. This substance is heparin.

Heparin is not a new substance¹. In 1916 McLean in Professor Howell's laboratory while investigating the thromboplastic activity of the phosphatides cuorin and jecorin in the heart and liver tissue, inadvertently discovered that the cuorin preparations had anti-coagulating properties. This finding aroused Howell's interest so that he and Holt set out to produce a stable preparation and to determine the chemistry of the anti-coagulant. They were able to isolate from the liver a phosphatide having coagulation retarding properties which they called heparin to indicate its origin from the liver.

Besides its presence in the liver and muscle tissues heparin has been found in practically all the tissues of the body. Jorpes has shown that the basophilic granules of the mast cells of Ehrlich contain considerable amounts of heparin². It is interesting to note that large numbers of these cells are found beneath the capsule of the liver³. These cells are particularly abundant around the small blood vessels without muscular coats and the capillaries. Therefore, if we can assign a secretory activity to these cells, then their anatomic location would suggest that perhaps heparin is the physiological anti-coagulant of the body⁴. To further substantiate this idea minute quantities of heparin can be isolated from normal plasma but none is obtained from the serum of clotted blood⁵.

Experimental work has continued in an effort to determine the exact structure of heparin. This has not been successful, although a crystalline barium salt of high potency has been synthesized. Theoretically it has been assigned a molecular weight of 628⁶. It is thought that heparin is a compound of variable structure, probably a mucoitin poly sulfuric ester⁷. The higher esters seem to be more potent.

The question of its action is unsettled. Whether it is an antithrombin, antiprothrombin, or whether it produces its effect some other place in the sequence of coagula-

tion is not known. Howell's theory of coagulation requires the presence of heparin as a physiological constituent of the blood. He believes that heparin is an antiprothrombin which stabilizes the prothrombin, and also that heparin activates a precursor of antithrombin which is a pro-antithrombin. Therefore, in clotting, when the cephalin combines with heparin, or the antiprothrombin, then the unstable prothrombin reacts with calcium to form thrombin. If the thrombin is in excess of the antithrombin, then fibrinogen is converted to fibrin⁸.

If you accept Morawitz's theory of coagulation, then the heparin probably neutralizes the action of thrombo plastin.

Mellanby thinks that it does not act as an antiprothrombin but as an antithrombin⁹.

Quick believes it is an activator to a precursor of antithrombin which is albumin¹⁰. Without getting in the realm of physico-chemistry it may be stated that Fischer believes that the effect of heparin can be explained upon a physico-chemical basis. He believes the action is that of a high-molecular colloid with a strong electro-negative charge¹¹. Other investigators have thought that heparin was somewhat related to complement. Mason thinks the final analysis of heparin action is undetermined, but that it probably activates a precursor to antithrombin¹².

The fate of heparin in the body is unknown. Howell recovered heparin in the urine of a heparinized dog. Jacques insisted that it is not recovered in urine or feces in appreciable quantities. Reinert and Winterstein have shown that a "twenty percent of a heparin-like substance is excreted by the kidneys."¹³ Probably its disappearance from blood can be accounted for by inactivation by serum¹⁴.

The indications for heparin lie in vascular surgery, thrombosis and embolism, laboratory procedures and transfusions. Experimental coronary thrombosis in dogs has been prevented by its use. Best and Solandt prevented the occurrence of portal thrombosis in 90 percent of the dogs when heparin was used seven days or longer¹⁵. Extension of mesenteric thrombosis has been prevented in several cases¹⁶. Successful embolectomies, venous grafts, and arterial anastomoses have

* Read before the Section on General Medicine, Annual Session, Oklahoma State Medical Association, May 20, 1941 in Oklahoma City.

been reported following the use of heparin¹⁷. Heparinization may be instituted within a few hours post operatively with safety, provided adequate hemostasis has been secured. Bleeding diatheses represent a contraindication to its use. Cerebral hemorrhage has been reported in cases of bacterial endocarditis treated with sulphonamide drugs and heparin¹⁸. The reactions experienced with the older preparations have been eliminated with the newer ones.

The problem of pulmonary embolism is to a large extent the problem of preventing venous clotting. Phlebitis has been shown to respond to the use of heparin with the involved vein returning to normal much more rapidly than could be expected otherwise. The action is not clear except that probably the heparin in some fashion prevents the extension of the process while the primary involvement is healing¹⁹. As you know the prevention and treatment of a thrombophlebitis or a plebo-thrombosis with resultant single or multiple pulmonary emboli has been most discouraging at times. We are aware that factors such as stasis, dehydration, infection, trauma incident to surgery, obstetrics, and prolonged illnesses tend to promote venous thrombosis and subsequent embolism. However, if by prolonging the coagulation of blood we are able to check the action of these factors, then perhaps we can prevent the undesirable clotting of the blood in the veins.

The incidence of pulmonary embolism varies greatly with the statistics quoted. Murray had an incidence of 15 percent in 300 cases. Fortunately, 80 percent of the patients with clinical and radiological evidence of pulmonary embolism recover. Statistics have been accumulating to show that heparin does give the patient additional protection against such an accident. Murray states that of the 440 patients treated in the hospital with heparin that thrombosis and embolism did not occur²⁰. Those patients having thrombosis at the time of administration of heparin showed no extension of the process.

Crafoord reports no sign of thrombosis in 117 cases of 126 post operative cases²¹. Other reports are equally as encouraging.

Heparin is not the ideal method of prevention and treatment of thrombosis and pulmonary embolism, and should not be used to the exclusion of other accepted forms of therapy. It will not affect thrombi already formed, but it does tend to prevent further growth. Furthermore, it does not seem applicable to the sudden massive pulmonary embolus.

Heparin may be given subcutaneously, intramuscularly, or intravenously. It is inactive when given by mouth. A combination

with Benzidine prolongs its action. Protamine renders it inactive and could conceivably be used as an antidote²². Heparin may be used locally, regionally, or generally. It may be used continuously or at intervals. At present the intravenous route with a continuous saline or glucose drip seems the method of choice.

The duration of treatment is quite important. In those patients where the development of venous thrombosis is considered, it has been shown that in 1,260 cases, of which 938 were diagnosed clinically as thrombo-phlebitis, post operative venous thrombosis developed as early as the second day and as late as on the 115 day, the average being the twelfth day²³. Also Barker, Nygaard, Walters and Priestley have shown that the time interval between the first and last embolus when there were multiple emboli is less than ten days in four-fifths of the cases, also that cases having more than one embolus had a mortality rate of approximately 60 percent.²⁴ It would seem, therefore, that heparinization should be continued ten days to two weeks, although there are a few individuals who may require more than one administration of heparin.

There is no set rule as to the amount of heparin to be given. This will vary with the patient. Also the amount will vary with the same patient from time to time. The product used will alter the quantity needed, although each product is uniform in its potency. Maximum action is reached within two minutes by intravenous injection, but only in two to four hours by other methods. Repeated large doses may accelerate coagulation²⁵. Murray has suggested that venous coagulation be maintained between 15 and 20 minutes, although further increase in the coagulation time does not appear to be harmful. Water intoxication must be guarded against²⁶.

The following case will illustrate some of the problems of heparin administration.

The patient was a 39 year old white female who was delivered of her second child 16 years following the birth of her first one. The post partum course was uneventful. She had had, however, with the first pregnancy a thrombophlebitis which had left a residual swelling in the left leg. During her second pregnancy there was a slight increase in the swelling of that leg but no pain nor discomfort. Eight weeks following the delivery the first demonstrable pulmonary embolus occurred. Previous to this she had been active without any subjective or objective evidence of active periphlebitis, phlebitis, or thrombosis.

The patient had a subsequent stormy course finally becoming convalescent in slightly less than two weeks. The second

pulmonary episode occurred 20 days after the first. In hope of preventing additional emboli it was decided to heparinize the patient. Therefore, heparin was started as a continuous intravenous drip of normal saline approximately three days after the second pulmonary embolus had occurred. The coagulation time of the blood was seven minutes by the Lee and White method, but there was very marked and rapid clot retraction. Also there was a peculiar streamer or tail of fibrin, red cells and platelets attached to the body of the clot. It was felt that this rapid clot retraction and unusual formation of the clot probably reflected some increased tendency of the patient's blood to clot. Arbitrarily 60,000 units of heparin were added to 1,000 c c of normal saline and the rate set at 20 drops per minute. The heparin unit in this being Roche-Organon Liquaemin, which was standardized as the quantity of heparin required to keep one cubic centimeter of recalcified citrated beef plasma liquid for four hours at 37 degrees centigrade.

Frequent adjustment of the rate of flow and the quantity of heparin was necessary. In spite of our efforts the coagulation time did not remain uniform. The beginning coagulation ranged from five to 30 minutes, while complete coagulation was noted from six to 90 minutes. However, it must be noted that the coagulation time became more stable when 80,000 units of heparin were used in a liter of normal saline, and the rate set at 20 drops per minute. Nevertheless, it was necessary to check the coagulation time frequently. Upon one occasion the coagulation time dropped to two and one-half minutes and six minutes—a definitely shortened coagulation time. This occurred, unfortunately, when our supply of heparin became exhausted. It was noted approximately ten hours after stopping the heparin. Fortunately, the patient suffered no ill effects and we were able to resume treatment within 11 hours. This hyper coagulability is contrary to the experience of others who state there is no negative phase after discontinuing heparin. From the sixth day of administration of heparin the patient was allowed to be up with the intravenous drip running, as is recommended. The patient experienced no particular discomfort from the procedure after the second or third day. Heparinization was continued for 242 hours during which time 1,194,000 units of heparin in 18,430 c c of normal saline were used. The intravenous fluid intake was kept below any critical level.

As to the toxic manifestations, the only ones experienced by the patient were nausea and vomiting. On the third day she was nauseated. On the fourth day she vomited twice. After the fourth day there was no further nausea nor vomiting. No hematuria

was noted, although Priestley, Essex, and Barker state that in several of their cases transient hematuria was observed²⁷.

The coagulation of the blood rapidly returned to normal after heparin was discontinued and no changes attributable to the heparin were observed. To date the patient has remained well. It is felt that heparinization in this case was of definite value, perhaps even life saving.

In conclusion I should like to state that heparin is a valuable adjunct to the prevention and treatment of thrombosis and embolism. It is not to be supposed, however, that heparin is to be used to the exclusion of other accepted means of therapy. Heparin is a safe non-toxic substance when used under controlled conditions, and as yet the coagulation time remains the essential check on the degree of heparinization.

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• THE PRESIDENT'S PAGE •

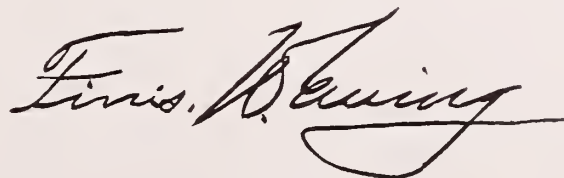
Another summer has passed and with its passing the ranks of our profession in the smaller communities are being reduced, both by death and the calling into the service of the United States Government an increasingly large number of younger doctors.

For many reasons the practice of medicine in the smaller communities is unattractive to the young doctor. He does not have easy access to hospitalization and the trained nursing care for his patients that he has been trained to depend on and which he thinks is absolutely necessary.

There can be no denying the fact that refinements and improved methods of practice that are only available in our hospitals are wonderful adjuncts to practice of medicine; so is the twelve-cylinder Cadillac more efficient and more comfortable than the Ford, but there can be no refuting the fact that there is still a very large and very definite need for the Ford and there will always be those who use it. Likewise, there is a very great need in the smaller communities for the well trained doctors who are willing to practice their profession personally and render to those who cannot afford, or to whom hospitals and nurses are not available, that kind of medical service they so sorely need.

There has developed a habit among our young graduates to congregate in the larger cities which results in crowding the profession in some localities and producing scarcity in others. This is admittedly a bad situation. It encourages irregular and unethical practices and has a decidedly evil effect upon the public mind. It may justify the charge that is sometimes heard that we are selfish and commercial and that the cost of medical service is too great.

There is a remedy for this situation and it behooves our profession to look for this remedy and apply it.

A handwritten signature in cursive script, reading "Loris B. Bawing". The signature is fluid and elegant, with a long, sweeping underline that extends to the right.

President.

• EDITORIALS •

EDUCATING THE PUBLIC

Living and practicing his profession, the average doctor consciously or unconsciously becomes a great educator. As a rule, his influence in the community is more potent than he suspects. It conditions home life and often favorably alters environment for the developing child. It may follow the youth into highschool and college; into the professions and varied business careers.

Under the present conditions of life, the physician is not doing his full duty as an educator until he has instituted a planned personal program which includes active participation in all movements designed to improve community health and to prepare the public for the stress and strain of modern life, which has been so obviously influenced and complicated through technological developments.

Future generations should be fortified against the multiplied dangers of this fast-going age. In helping to bring a child normally and logically from birth to maturity, we should never forget that from the beginning to the end of life, his behavior pattern, whether leading to success or failure, is wholly dependent upon two sets of factors. These are (1) hereditary, and (2) environmental. For the individual or the generation under consideration, the hereditary factors are fixed, but the environmental factors are constantly changing and to serve our purposes, they may be modified to some extent through voluntary action.

In a given case, the family doctor, better than anyone else, should know how to appraise the hereditary factors and how to fortify them against the exacting demands of environment, and how to alter the latter in so far as alteration is possible to meet individual needs. The imperative demand for such effort, with a liberal plan for co-operation, is suggested by the increasing calls for more beds in hospitals for nervous and mental cases, the high incidence of nervous instability, or alcoholic insanity, and the mounting roll of the ne'er-do wells and roving derelicts, all suggesting nervous instability and maladjustment.

In Europe today we are witnessing a "revolution of nihilism," as a result of widespread psychological maladjustment and moral insecurity. This has made it possible for merciless dictators to enslave the masses with the prospect of nothing in return, except unyielding coercion in material things and freedom from all religious, ethical and

sexual inhibitions. From a moral viewpoint, obviously the German people are now well on the way back to the Pleistocene Age. Evolution is slow and difficult, but devolution may be dangerously swift.

In our own country it may be said that this moral instability is observed in the growing disregard for traditional inhibitions and the craze for freedom of expression. Also in many of the labor union controversies and unreasonable behavior during strikes; in the waning self-sufficiency and integrity as shown by the alarming complacency of those on government relief and the growing evidence of widespread disloyalty and indifference toward other people's rights and privileges, including their material possessions.

Every doctor should confront his own soul with the significant question: Am I doing what I can toward the stabilization of our national life through the building of character, capable of level vision and normal response in the presence of a revolutionary environment?

This is a difficult assignment. Giving a sound education to the newer generations is not going to be easy "trucking." At a high peak in Greek civilization, they killed Hippocrates for teaching the young men of his day the logical application of reason to their daily problems.

In connection with the above discussion, your attention is called to an important booklet, prepared by the Joint Committee on Health Problems representing the National Education Association and the American Medical Association, and distributed by the American Medical Association. Every doctor should have this booklet and should see that a copy is placed in the hands of each school-teacher in his district, and made available to parents in the homes where serious psychological conflicts exist.—Lewis J. Moorman.

THE CONTROL OF AMERICAN MEDICINE

The following pertinent comment by Doctor Rice, Shawnee, is being reprinted from the Pottawatomie County Medical Society Bulletin for June, 1941:

On April 4th a Federal Jury in Washington, D. C., found the American Medical Association guilty of a criminal conspiracy to restrain trade. As far as a settlement of the issues is concerned the verdict is without substance or meaning, but the issues were

clarified and defined and the purpose and objectives of the prosecution were apparent. The attainment of the objectives would destroy the structure and pattern of medical service as it has been known and accepted in the United States.

Some of the issues involved in this action are: 1. The exclusive right of physicians to practice medicine. Presumably a layman or a lay organization should have the legal right to provide medical service.

2. The right of physicians to control or influence the qualifications of physicians on hospital staffs or the qualifications of physicians to be granted courtesy privileges in hospitals.

3. The right of physicians to control or influence conditions in hospitals under which training is provided.

4. The right of physicians to determine educational and ethical standards that shall qualify individuals for the rendering of medical service.

These are basic rights. They are essential to the safeguarding of the public. They are so fundamental that they have been accepted without concern or question.

There has been no compulsion in the controls of American Medicine, the codes and principles which govern the providing of medical services having been evolved tediously over a period of more than a century.

Now the legality of these codes and principles has been questioned. The final solution will effect every practicing physician in the United States. If it is finally decided that laymen or lay organizations can provide medical service the entire structure of medicine as we know it can be destroyed.

If doctors of medicine are denied the right to determine or importantly influence the educational standards for medical students and the nature and quality of interne training, the result will be an army of quacks with the individuals competing in the open market for the patronage of the ailing and sick.

The sane and constructive solution of this important problem should be considered under two important parts:

1. American medicine must be given authority from the court of final jurisdiction for a code of conduct. The authorization must define the areas wherein controls can be established and must define the nature and extent of such controls. Regardless of time, energy, or expense involved there should be no compromise until all of the issues have been settled by the authority of the court of final jurisdiction.

2. The public must be made aware of its vital interest in this all important issue. In the final analysis the public's opinion of the quality and effectiveness of medical service will become the deciding factor in the settle-

ment of the problem. The public is uninformed and without knowledge it is not competent to render an impartial decision. The public must be enlightened on the facts and this is the important, if gigantic, task and responsibility of every practicing physician in the United States.—E. E. Rice, M.D.

INFANTILE PARALYSIS

The following taken from the report of the "*Georgia Warm Springs Foundation for Infantile Paralysis*" will, I am sure, be of interest to the Medical Profession as we are vitally concerned about both the early treatment of this disease and the treatment of the sequellae following the acute stage.

We are, no doubt, interested as to the distribution of finances and the means of support of the Foundation. The following will clear up this matter and this is a quotation from the Foundation: "Some confusion has arisen in the minds of the public as to the relationship between Georgia Warm Springs Foundation, founded in 1927, and The National Foundation for Infantile Paralysis, Inc., organized in 1938.

These two Foundations are entirely separate and distinct.

It was because of the experience gained from the work done at Georgia Warm Springs Foundation that the National Foundation was created. The occasion and the reason for organizing The National Foundation for Infantile Paralysis, Inc., cannot be better described than it was by President Roosevelt in a statement which he made on September 23, 1937, sponsoring the creation of the National Foundation, which reads as follows:

"My own personal experience in the work that we have been doing at the Georgia Warm Springs Foundation for over ten years, leads me to the very definite conclusion that the best results in attempting to eradicate this disease cannot be secured by approaching the problem through any single one of its aspects, whether that be preventive studies in the laboratory, emergency work during epidemics, or after-treatment. For over ten years at the Foundation at Warm Springs, Georgia, we have devoted our effort almost entirely to the study of improved treatment of the after-effects of the illness. During these years other agencies, which we have from time to time assisted have devoted their energies to other phases of the fight. I firmly believe that the time has now arrived when the whole attack on this plague should be led and directed, though not controlled, by one national body. And it is for this purpose that a new national foundation for infantile paralysis is being created.

"As I have said, the general purpose of the

new foundation will be to lead, direct, and unify the fight on every phase of this sickness. It will make every effort to insure that every responsible research agency in this country is adequately financed to carry on investigations into the cause of infantile paralysis and the methods by which it may be prevented. It will endeavor to eliminate much of the needless after-effect of this disease—wreckage caused by the failure to make early and accurate diagnosis of its presence.

"We all know that improper care during the acute stage of the disease, and the use of antiquated treatment, or downright neglect of any treatment, are the cause of thousands of crippled, twisted, powerless bodies now. Much can be done along these lines right now.

"The new foundation will carry on a broad-gauged educational campaign, prepared under expert medical supervision, and this will be placed within the reach of the doctors and the hospitals of the country. The practicing physician is in reality the front line fighter of the sickness, and there is much existing valuable knowledge that should be disseminated to him.

"And then there is also the tremendous problem as to what is to be done with those hundreds of thousands already ruined by the after-effects of this affliction. To investi-

gate, to study, to develop every medical possibility of enabling those so afflicted to become economically independent in their local communities will be one of the chief aims of the new foundation."

FINANCES

"*The Georgia Warm Springs Foundation* from 1927 to 1934 met its annual operating costs in excess of its income chiefly with contributions from individuals and charitable organizations.

In 1934, the net proceeds of the first Celebration of the Honorable Franklin D. Roosevelt's Birthday were given to the Georgia Warm Springs Foundation for the benefit of the victims of the after-effects of infantile paralysis.

In 1935, it received no part of the proceeds of the Celebration held that year.

In 1936 and 1937 the Foundation received 30 percent of the proceeds, 70 percent being retained in the various communities where raised to be used locally for the aid of sufferers from poliomyelitis.

In 1938, all of the net proceeds of the Birthday Celebration were given to the National Foundation for Infantile Paralysis.

Since 1938, 50 percent of the net proceeds of all Birthday Celebrations has been left in the counties where raised and the remaining 50 percent has gone to the National Foundation for Infantile Paralysis."

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ASSOCIATION ACTIVITIES

OFFICE OF CIVILIAN DEFENSE APPOINTS MEDICAL ADVISORY COMMITTEE

Through the office of Director of Civilian Defense has come the announcement of the appointment of a Medical Advisory Committee to assist the Medical Division of OCD.

This Advisory Committee, composed of Dr. George Baehr, New York, Chairman; Dr. Robin C. Buerki, Madison, Wisconsin; Dr. Elliott Cutler, Boston, Massachusetts; Dr. Oliver Kiel, Wichita Falls, Texas; Dr. Albert McCown, Washington, D. C.; and Dr. Fred Rankin, Lexington, Kentucky, will assist the Office of Civilian Defense in working out the problems of medical care for the civilian population in emergencies.

It is interesting and gratifying to note that the membership of the Advisory Committee is made up of outstanding medical men and includes the President-Elect of the American Medical Association, Dr. Fred Rankin.

100,000 Volunteer Nurses' Aides To Be Trained During Next 12 Months

Director of Civilian Defense, Mayor F. H. La Guardia, in announcing the appointment of the Medical Advisory Committee also announced that during the next twelve months the OCD would cooperate with the American National Red Cross and the major hospitals of the country in sponsoring a training program for Volunteer Nurses' Aides.

This training course will supply the trained nurse with intelligent assistants and is designed to increase the effectiveness of the trained nursing personnel. The course will be limited to women between the ages of 18 and 50 who have at least a high school education, or its equivalent, and are physically fit.

OKLAHOMA CLINICAL CONFERENCE TO MEET OCTOBER 27-30

The officers and committees of the Oklahoma City Clinical Society have been very busy during the past ten months arranging a program for the Eleventh Annual Conference of the Society, October 27-30. To this end they have secured an imposing array of guest speakers, including outstanding teachers in practically every field of medicine. These speakers are;

Dr. Fred W. Rankin, President-Elect of the American Medical Association, and Clinical Professor of Surgery, University of Louisville; Dr. Walter C. Alvarez, Professor of Medicine, University of Minnesota; Dr. A. Bruce Gill, Professor of Orthopaedic Surgery, University of Pennsylvania; Dr. L. Emmett Holt, Jr., Associate Professor of Pediatrics, Johns Hopkins Medical School;

Dr. Verne C. Hunt, Clinical Professor of Surgery, University of Southern California School of Medicine; Dr. Howard T. Karsner, Professor of Otolaryngology and Head of Department of Otolaryngology, Tulane University Medical School; Dr. Perrin H. Long, Professor of Preventive Medicine, Johns Hopkins Medical School; Dr. John H. Munser, Professor of Medicine, Tulane University Medical School;

Dr. Alton Ochsner, Professor of Surgery and Head of Department of Surgery, Tulane University Medical School; Dr. Earl D. Osborne, Professor of Dermatology and Syphilology, University of Buffalo School of Medicine; Dr. E. D. Plass, Professor and Head of Department of Obstetrics and Gynecology, University of Iowa Medical School; Dr. Wendell G. Scott, Assistant Professor of Clinical Radiology, Washington University School of Medicine;

Dr. Albert O. Singleton, Professor of Surgery, Uni-

versity of Texas Medical School; Dr. Fred J. Taussig, Professor of Clinical Obstetrics and Gynecology, Washington University School of Medicine; Dr. Gilbert J. Thomas, Associate Clinical Professor of Urology, Medical and Graduate Schools, University of Minnesota; Dr. Henry P. Wagener, Associate Professor of Ophthalmology, Mayo Foundation, Graduate School of Medicine, University of Minnesota.

The Post Graduate Committee has arranged 24 symposia to be presented by local physicians and discussed by distinguished guest speakers. This part of the meeting has become one of its most popular features, and the rapid development of new facts and theories in the field of medicine makes these symposia timely and stimulating.

The rapid and continued growth of this meeting during its 11 years of existence has proven its worth to the profession over the Southwest. Certainly the four day period of intensive instruction can be obtained at a minimum expenditure of time and money. Guest speakers and Associate Members who have attended in the past have been impressed with the clock-like precision with which the meeting is conducted, and feel this is one of the major reasons why it is possible to gain so much knowledge in a limited time.

All sessions and commercial exhibits will be held on the lounge floor of the Biltmore Hotel. Additional information may be obtained by corresponding with the secretary at 512 Medical Arts Building, Oklahoma City, Oklahoma.

Physicians Casualty Announces New Rates

The Physicians Casualty Association of America has made a reduction in the \$25.00 per week accident and health insurance, of \$1.00 per year; in the \$50.00 per week accident and health insurance, of \$2.00 per year, and in the \$75.00 per week accident and health insurance, of \$3.00 per year.

Monograph Reprints Available to Doctors

The Journal acknowledges the receipt of the monographs listed below. They are reprinted from *Hygeia* and can be had at small cost by writing the American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

1. Mental Hygiene in the Classroom. By the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association. Second Printing, January, 1941.
2. Alcoholism. Alcohol provides an easy escape mechanism from life's realities. Edward A. Strecker points out what that occasional drink before lunch may lead to.
3. Infantile Paralysis. The newly isolated pure chemical vitamins give our infantile paralysis research men powerful tools that are already beginning to solve the secrets of natural immunity. By Paul deKruif.
4. Make Love a Habit. Most couples fail to stay in love because there is nothing back of their love. They have little in common, but much to prevent compatibility. They are in love with love: with themselves, but never with each other. By Paul Popenoe.
5. Hemorrhoids. By Harold Laufman.

Single copy of Number One, twenty cents.
Single copies of Two and Three, ten cents.
Single copies of Four and Five, five cents.



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President Ewing Announces Appointment Of Special Committee

President Finis W. Ewing has appointed the following members of the Association to membership on a Committee to study Prepaid Surgical Benefits: Dr. John F. Burton, Oklahoma City, Chairman; Dr. V. C. Tisdal, Elk City; Dr. C. W. Arrendell, Ponca City; Dr. Benjamin A. Davis, Cushing; and Dr. Gifford H. Henry, Tulsa.

The appointment of this Committee is in line with the instructions from the House of Delegates at its Annual Meeting in Oklahoma City.

THE KANSAS CITY SOUTHWEST CLINICAL SOCIETY ANNUAL FALL CLINICAL CONFERENCE

For the nineteenth consecutive year, the Kansas City Southwest Clinical Society will present its Annual Fall Clinical Conference in Kansas City, Missouri, October 6, 7, 8, 9, 1941.

Fifteen distinguished guests from various cities of the United States will present phases of medical advancement with which they have been identified from research and clinical viewpoints. Clinicians from Greater Kansas City who have achieved enthusiastic approbation of their colleagues at home, and many who enjoy more than local reputation, will participate in rounding out the program for the Fall Conference.

Scientific exhibits worthy of study are being prepared by members who have the knack of reaching into your brain cells through pictorial methods and alluring statistics.

Technical exhibits upon new remedies, tried and true products, and mechanical devices of modern medicine will be displayed in greater numbers this year.

The Clinical Conference idea, pioneered in Kansas City almost twenty years ago, is now established in many cities throughout the country. The basic idea

for clinical conferences is the continuing education of the physician, general practitioner or specialist, who is caring for the American Public.

The 1941 Fall Conference program is ideal for any physician who wishes to listen and acquire new ideas, restore forgotten points and polish up on useful information. Plan now to come to the Nineteenth Annual Fall Clinical Conference. If you have not received the Kansas City Medical Journal, with the tentative program of the Conference, one will be sent to you upon request.

Ophthalmology, Otolaryngology Meeting To Be Held October 19-23 in Chicago

The Forty-Sixth Annual Meeting of the American Academy of Ophthalmology and Otolaryngology will be held at the Palmer House, Chicago, October 19-23, under the presidency of Dr. Frank R. Spencer, Boulder, Colo.

The program for the meeting will include one general scientific meeting, separate programs for the two specialties, and instructional courses. Featuring the general meeting will be a symposium on vertigo, with Dr. Francis H. Adler, Philadelphia, representing ophthalmology; Dr. William J. McNally, Montreal, otolaryngology, and Dr. Bernard Alpers, Philadelphia, neurology.

Dr. Perry Goldsmith, professor of otolaryngology of the University of Toronto Faculty of Medicine, Toronto, Ont., will be the academy's guest of honor.

Among the speakers for the meeting are Dr. Alfred W. Adson, Rochester, Minn.; Dr. Albert N. LeMoine, Kansas City, Mo.; Dr. John H. Dunnington and Dr. Maynard Wheeler, New York; Dr. W. F. Petersen, Chicago; Dr. Mark J. Schoenberg, New York; Dr. Charles T. Porter, Boston; Dr. Rae E. Ashley, San Francisco; Dr. Alfred J. Cone, St. Louis, and Dr. Frederiek T. Hill, Waterville, Maine.

Besides the scientific program and the scientific exhibits, the meeting will be highlighted by a motion picture program.

- What* . . . 19th Annual Fall Clinical Conference, Kansas City Southwest Clinical Society
- Where* . . . Municipal Auditorium, Kansas City, Missouri
- When* . . . October 6, 7, 8, 9, 1941
- Why* 5 Scientific Assemblies by 15 Guest Speakers.
- 6 Lecture Sessions, Medical, Surgical and Allied Specialties.
- 3 Panel Discussions.
- In* Entertainment: Stag, Alumni, Women.
- Radio Broadcasts
- Round Table Luncheons
- Addition* . . . Scientific Exhibits and Movies
- Technical Exhibits

Write 208 Shukert Bldg., Kansas City, Mo., if you do not have a copy of The Kansas City Medical Journal carrying complete program.



Highly practical **FOR INFANTS** *and* **CHILDREN**

● Incorporating the daily dose of vitamin D in milk removes some difficulties in administration. The mother need only add the prescribed dose to the daily ration of milk. Moreover, biologic and clinical investigations have shown that when vitamin D is thoroughly diffused in milk smaller doses may suffice for the prevention and cure of rickets.

Drisdol in Propylene Glycol makes it possible to secure the benefits obtainable from combining vitamin D with the daily milk ration. Unlike oily preparations, Drisdol in Propylene Glycol diffuses readily in milk and when well diluted imparts no taste nor odor.



HOW SUPPLIED:

Drisdol in Propylene Glycol — 10,000 U.S.P. units per gram—is available in bottles containing 5 cc. and 50 cc. A special dropper delivering 250 U.S.P. vitamin D units per drop is supplied with each bottle.

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Brand of CRYSTALLINE VITAMIN D

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Pharmaceuticals of merit for the physician

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• OBITUARIES •

Dr. Charles R. Silverthorne 1872-1941

Dr. Charles R. Silverthorne died July 27, 1941, at Bakersfield, Calif. At the time of his death he was 69 years old, and he left surviving him, his widow, Mrs. Mildred Silverthorne, and two daughters, Mrs. James Stokes of Woodward, Oklahoma, and Mrs. Lyman E. King, of Dallas, Tex.

His body was interred July 31, 1941, at Mount Hope Cemetery, in Topeka, Kan.

Doctor Silverthorne, a native of Kentucky, practiced surgery in Topeka, Kan., for a number of years prior to the year 1925, when he moved to Woodward and operated the General Hospital in Woodward from 1925 until 1940. He was graduated from the University of the South Medical Department, Sewanne, Tenn., in 1898.

He was a Knight Templar, a member of the Blue Lodge, and a 32nd Degree Mason.

Resolution

WHEREAS, Charles R. Silverthorne was, for more than a decade, an active and respected member of the Woodward County Medical Association, and

WHEREAS, during such period of time he was active as a physician and surgeon in Woodward, Oklahoma, and during such period of time, was a leader in the medical profession and was liberal with both his time and money in the promotion of the medical profession in this community and in the alleviation of human pain and suffering, and

WHEREAS, the said Charles R. Silverthorne has departed this life and the Woodward County Medical Association desires to commemorate his passing by an appropriate Resolution,

NOW, THEREFORE, BE IT RESOLVED by the

Woodward County Medical Association, in regular meeting duly assembled on this eighth day of August, 1941, that the passing of the said Charles R. Silverthorne is a distinct loss to the Woodward County Medical Association and to the community in which he resided.

BE IT FURTHER RESOLVED that the Woodward County Medical Association takes this method of expressing to the medical profession at large and to the family of the said Charles R. Silverthorne, its deep regret at the passing of one of its leaders, and acknowledges the loss of a faithful public servant.

BE IT FURTHER RESOLVED that a copy of this Resolution be spread upon the permanent records of the Woodward County Medical Association and that a copy of this Resolution be, by the Secretary, presented to the members of the family of Charles R. Silverthorne.

Memoriam—Dr. J. R. Holliday 1880—1941

In the death of Dr. J. R. Holliday there has passed from our midst an outstanding Christian character and one of the most beloved members of the Oklahoma County Medical Association.

His father was a physician, and he was also the grandson of a physician, and there flowed in his veins all the traditions of the noblest and best ethics of his chosen profession.

After his graduation from Barnes Medical College, he first located in Duncan, Oklahoma, where he practiced for three years. He then located in Oklahoma City in 1910 and with the exception of the time he spent in army service during the World War, he worked here continuously from that date.

His life was a fulfillment of those highest qualities that have made our country great. He was loyal to his home, to his high standards of civic righteousness and his lofty ideals of right living.

No one could ever misunderstand Doctor Holliday, for he had nothing to conceal. He was a manly man and of him it could be truly said that "He loved his fellow men."—J. M. Alford.

For the local Treatment of Acute Anterior Urethritis

(DUE TO NEISSERIA GONORRHEAE)

SILVER PICRATE*
Wyeth

A complete technique of treatment and literature will be sent upon request

*Silver Picrate is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trisolution for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by Neisseria gonorrhoeae.¹ An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., 23, 201 (March), 1939.

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KARO FORMULAS FOR PREMATURE AND DEBILITATED INFANTS

DILUTE MIXTURES

Evaporated milk..... 4 ozs.
Water, boiled..... 12 ozs.
Karo..... 1 tbs.
2 ozs. every 3 hrs. for 8 feedings

Lactic Acid milk (dried) 5 tbs.
Water, boiled..... 16 ozs.
Karo..... 1½ tbs.
2 ozs. every 3 hrs. for 8 feedings

CONCENTRATED MIXTURES

Breast milk..... 12 ozs.
Evaporated milk..... 4 ozs.
Karo..... 1 tbs.
2 ozs. every 3 hrs. for 8 feedings

Lactic Acid milk (2%)... 16 ozs.
Karo..... 2 tbs.
2 ozs. every 3 hrs. for 8 feedings

FEEDING PROGRESS

Days of Age	Drams at Each Feeding	Ounces of Feeding per 24 Hrs.
1	1	1
2	2	2
3	4	4
4	6	6
5	8	8
6	10	10
7	12	12

(8 drams = 1 ounce)

MOST of the common milk mixtures have been used at various times with some degree of success—evaporated, acid and dried milks, and butter-flour mixtures. Those high in protein and carbohydrate and low in fat are the most suitable in concentrated formulas properly adapted to the limited digestive capacity of the premature. While lactic-acid milk with addition of 7 to 10 per cent by volume of Karo syrup yields twenty-five to thirty calories per ounce, evaporated milk with 5 to 10 per cent added Karo syrup is equally effective.

Processed or acid milks are advantageous because of the fine curds produced, the premature being particularly susceptible to curd indigestion. Nonfermentable carbohydrate in quantities similar to those used in normal feeding of infants may be added to any of these milks. The formula may be concentrated by decreasing the water, or adding powdered protein milk in place of extra amounts of sugar."

KUGELMASS: "Newer Nutrition in Pediatric Practice."

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NEWS FROM THE COUNTY SOCIETIES

Although most of the county medical societies adjourned their regular meetings during the summer months, several continued to meet. Among these were the Pottawatomie, the Pontotoc and the Pittsburg county societies.

The Pottawatomie society met June 21 in Shawnee, then again, July 19 in Shawnee. About 12 members were present at the July meeting to hear Dr. J. E. Hughes, Shawnee, discuss "Uterine Bleeding." An excellent discussion of his topic was held.

The society met again August 16 in Shawnee with Dr. John Carson, Shawnee, as chief speaker of the evening.

Fifteen members of the Pontotoc county society attended the July meeting in Ada. A committee appointed to contact officers of the Farm Security Health Bureau reported on their meeting with the Bureau officers. Following this report, a round table discussion of the program of the Bureau was held.

Dr. R. E. Cowling, Ada, was the speaker for the August meeting, August 6, in Ada. Doctor Cowling's subject was "Ascites in Diagnosis." A motion picture on Thyroidectomy completed the program for this meeting.

Members of the Canadian county society adjourned their meetings for the summer, but used as the highlight of their summer activities the series of Postgraduate lectures on Pediatrics given by Dr. James G. Hughes, Memphis, Tennessee. The series began August 20 in El Reno.

The Pittsburg county society met with the Pittsburg County Bar Association at a barbeque supper, August 9. Attorney M. O. Counts of Hartshorne was host to the two groups at his ranch, with other members of the Bar Association acting as assisting hosts.

September 19, members of the medical society will meet for a regular business and program meeting in McAlester, with a motion picture, "Exploring With X-Rays," by General Electric, as the feature of the program.

Many of the county societies will resume their regular monthly meetings in September. Among these societies are the Woods, the Seminole, the Garvin, the Oklahoma, the Woodward, the Tri-County (Grady, Stephens and Caddo Counties), and the Washington-Nowata county societies.

Dr. Charles M. Pearce, McAlester, will discuss "F. S. A. Medical Care," and Mr. William Coulter, representative for Mead Johnson and Company, will show two talking pictures at the meeting of the Woods county society, September 30, in Alva.

The two motion pictures to be shown by Mr. Coulter are "When Bobbie Goes to School" and "Roentgen Pelvimetry."

Members of the Garvin county society will resume their meetings September 17, and members of the Woodward county society will meet again September 11 in Woodward. Programs for these two meetings have not yet been announced.

The Oklahoma County Medical Association will start its new season of meetings with a social meeting September 16, in Oklahoma City.

Another county society to resume its meetings in September is the Washington-Nowata society. Members will meet September 10.

A chicken dinner was the special feature of the Pottawatomie county society when about 15 members were in attendance at the August 16 meeting in Shawnee.

The program which was presented by Dr. John Carson was a talk entitled "Sulfanilimide Therapy" with particular attention to the sulfaguanidine treatment of ulcerative colitis.

The next meeting will be September 20 in Shawnee at which time Dr. W. M. Gallaher will be the principal speaker.

Dr. John K. Coker Will Practice In Clovis, New Mexico

Dr. John K. Coker, well-known Duncan physician, has moved to Clovis, New Mexico, where he will carry on a general practice and where he will be associated with the Clovis Memorial hospital.

Doctor Coker, who has been connected with the Weedn hospital in Duncan for the past six years, is a member of the Stephens County Medical Society and has served as secretary of that society since January, 1941.

Doctor Coker received his medical degree from the University of Oklahoma School of Medicine in 1934 and took his internship at San Diego County hospital, in California.

Important Notice

Extra copies of the post convention issue of the Bulletin of the Woman's Auxiliary are available. You may begin your subscription with this issue if you desire. It is an interesting and valuable number, containing four of the major programs of the national organization which have to do with the plans for home defense.

It is the plan of the national board to use the official publication to present all important material to the members of the Woman's Auxiliary. All issues of the Bulletin will contain, therefore, important programs and articles presenting information necessary for the efficient promotion of our Auxiliary projects.

Subscribers are entitled to four issues of the Bulletin for one dollar. Please use the subscription blank below, indicating the issue with which you wish your subscription to start.

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Opportunity for Practice

An excellent opportunity for practice awaits a physician in the town of Cheyenne, Oklahoma. Any doctor who locates there will be given full cooperation by the local Kiwanis Club, Draft Board and drug store.

Anyone interested in obtaining more information about this opportunity should write H. E. Hadlock, Hadlock Drug Store, Cheyenne.

Do You Know Your SULFONAMIDES?



SULFANILAMIDE

WHICH SHALL I USE
FOR GONORRHEA?

SULFAPYRIDINE

WHAT'S GOOD FOR "STREP"?

SULFATHIAZOLE

WHICH PRODUCES
BEST RESULTS
IN PNEUMONIA?MY PATIENT HAS A "STAPH"
INFECTION—WHAT SULFONAMIDE
IS MOST EFFECTIVE?

The sulfonamide compounds continue to grow in importance. Three separate drugs have been accepted by the Council on Pharmacy and Chemistry of the A. M. A. Another has been submitted for acceptance. We present on this page the "box score" on three "sulfa" drugs now in widespread use.

	Sulfanilamide N.N.R.	Sulfapyridine N.N.R.	Sulfathiazole N.N.R.
CHEMICAL NAME	(p-amino-benzene sulfonamide)	(2-sulfanilyl aminopyridine)	(2-sulfanilyl aminothiazole)
SOLUBILITY in 100 cc. of water at 37.5° C.	1480 mg.	54 mg.	95 mg.
PHARMACOLOGY	Relatively uniform and rapid.	Irregular and often poor.	Uniform—very rapid.
Absorption			
Distribution	In all body fluids.	In all body fluids.	In blood but poorly in other body fluids.
Excretion	Rapid.	Slower than Sulfanilamide.	Rapid.
Tendency to conjugation.	Slight.	Marked.	Moderate.
CHEMOTHERAPY			
★ Preferred Drug.			
● Also Effective.			
Colon Bacillus			★
Dysentery Bacillus			●
Gonococcus		●	★
Lymphogranuloma Venereum	●	●	★
Meningococcus	●	★	●
Pneumococcus		★	★
Staphylococcus		●	★
Streptococcus	★	●	
HOW SUPPLIED BY SQUIBB	5 grain in bot. of 100, 500, 1000. 7½ grain in bot. of 25, 100, 1000.	0.5 gram in bot. of 50, 100, 1000.	0.5 gram in bot. of 50, 100, 500, 1000.
Tablets			
Powder	4 oz. Rx. bottle.	5 gram vials.	
Crystals	1.0 gram ampuls, box of 5 and 25.		5 gram vials.
Capsules		0.25 gram in bot. of 50, 100, 1000.	

Specify
SQUIBB
sulfonamides

When you think of **SULFONAMIDES**
... think of **SQUIBB**

University of Oklahoma School of Medicine

Changes in the Faculty

Mrs. Ida Lucille Brown Wallace, Instructor in Bacteriology, resigned and Miss Elizabeth R. Hall has been appointed to fill the vacancy. Miss Hall holds the B.S. degree from the University of Washington and the M.S. degree from the University of Michigan. Prior to her appointment in this medical school Miss Hall was connected with the University of Michigan Health Service, Ann Arbor.

Dr. Benedict E. Abreu, Instructor in Pharmacology, has resigned to accept the appointment of Assistant Professor of Pharmacology at the University of Georgia School of Medicine. Dr. Paul W. Smith has been appointed to fill the vacancy created by the resignation of Dr. Abreu. Dr. Smith had his training at Kansas State Teachers College, the University of Wisconsin, the University of Kansas, the University of Tennessee, and the University of Illinois. For the past three years Dr. Smith was the Assistant Professor of Physiology at the University of Tennessee School of Medicine, Memphis.

Dr. Donald B. McMullen, Assistant Professor of Bacteriology, has been connected with the Department of Health of the State of Michigan during the summer where he was working on the Incidence and Control of Water Itch.

Among the improvements introduced at the University and Crippled Children's Hospitals are:

1. Air conditioning of the newborn nursery.
 2. Remodeling and air conditioning of infants nursery at the Crippled Children's Hospital, and installation of individual cubicles of steel and glass for each crib.
 3. Creation of premature nursery.
- There has been an increase in the number of pre-

mature infants received by the Crippled Children's Hospital for treatment during the past year. A separate room has been set aside for the premature nursery. This room now contains seven bassinets. Individual nursing techniques have been instituted and the nurses assigned to the premature infants do not render nursing service in other units while attached to the premature nursery, thus eliminating all chance of cross-infection through contamination due to technique. During the six months the premature nursery has been in operation premature mortality has been reduced over 50 percent.

4. During the past year the University and Crippled Children's Hospitals have acquired three Drinker Respirators. The Hospital purchased an adult Drinker Respirator, an infant Drinker Respirator, and a General-Collins Emergency Lung. An orthopedic model Drinker Respirator was received as a gift from the Oklahoma County Chapter of the National Foundation for Infantile Paralysis, Inc. This gift was made possible through the March of Dimes Campaign carried out in Oklahoma County last year.

New Superintendent of Nurses

On July 1, 1941, Clare M. J. Wangen, R.N., B.S., M.A., was appointed as Superintendent of Nurses and Director of Nursing Service. Miss Wangen graduated from the Johns Hopkins School of Nursing, received her B.S. degree from the University of Washington, and the M.A. degree from Columbia University, New York City. Among her most recent positions was that of Director of the Public Health Program of the Kellogg Foundation, Superintendent of the Clifton Springs Sanatorium, Assistant Educational Director of Johns Hopkins School of Nursing, Assistant Dean of Baylor University School of Nursing, and for the past four years she has been Superintendent of Nursing and Director of the School of Nursing at the University of Virginia Hospitals.

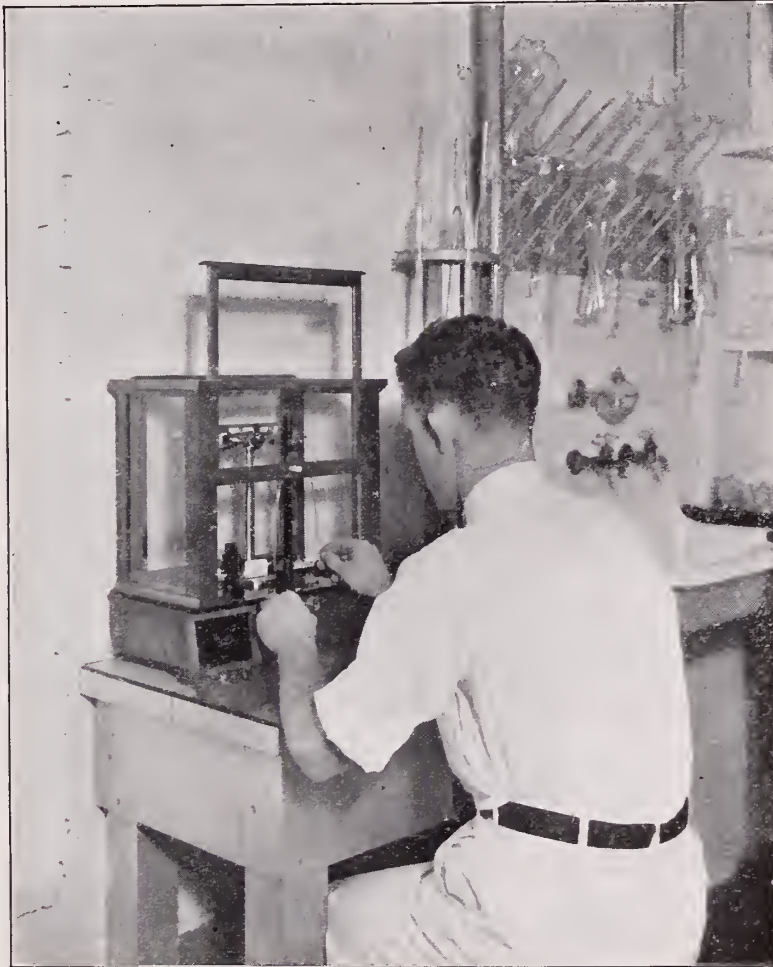


It makes their regular check-ups
"fun" by giving youngsters some
wholesome CHEWING GUM

It's such an easy, thoughtful gesture to always offer your little patients some delicious Chewing Gum while they're waiting or when they leave the office. They just love it — and it makes a big hit with adults, too. And for such a small cost this one, friendly, little act goes a long way in winning extra good will and affection. Besides, as you know, the chewing is an aid to mouth cleanliness as well as helping to lessen tension. Enjoy chewing Gum, yourself. Get a good month's worth for your office today.

**There's a reason, a time
and place for Chewing Gum**

The fruits of research are evaluated by their applied use.
A simple discovery may be invaluable if its application
is restricted to the correct use.



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Group Hospital Service

There are sixty-six hospital service plans in the United States and Canada authorized to use the Blue Cross official symbol of approval by the American Hospital Association.

"THE BLUE CROSS PLAN" is a description employed almost universally to identify plans authorized to use this symbol of distinction and recognition. Throughout the East, the term is used almost without exception. Group Hospital Service of Oklahoma is a BLUE CROSS PLAN, and in answer to many inquiries, an explanation of the BLUE CROSS EMBLEM follows:

"The Lorraine Cross is quartered in blue. This cross has been the emblem of relief to the unfortunate since medieval time. The Caduceus, or Wand of Mercury, and the Serpent of Aesculapius, has symbolized the healing art for thousands of years. The Maltese Cross has been the emblem of the Knights of Saint John of Jerusalem since 1092 A. D. and has been used for hundreds of years by the Saint John Ambulance Service. The international emblem for the relief of the sick and wounded is the Geneva (or Greek) Cross. The Urn Lamp is universally accepted as symbolic of knowledge. It is the official emblem of the Florence Nightingale Nurses. The American Eagle symbolizes the United States of America; the maple leaves, the Dominion of Canada, and the whole is supported by the Latin motto *Nisi Dominus Frustra*—'Without God We Can Do Nothing'."

\$35,000,000. This figure refers neither to the national debt nor the armament budget, but is the amount our hospitals will receive from the Blue Cross Plans during the year 1941. Writing in the February issue of "Hospital Management," C. Rufus Rorem, Ph. D., C. P. A., Director, Commission on Hospital Service, American Hospital Association, says in part:

"On January 1, 1941, there were 66 hospital service plans approved by the Commission on Hospital Service of the American Hospital Association. These plans report a total enrollment exceeding 6,000,000 persons, as compared with 600,000 on January 1, 1937, and with only 60,000 on January 1, 1935.

During the coming year non-profit plans will pay more than \$35,000,000 to the hospitals of the United States, an amount greater than the combined hospital receipts from endowment income and from community chests and councils.

No two hospital service plans are alike in detail, but they are all alike in principle. They provide for payments of equal and regular amounts by a group of individuals into a common fund, which is used, when necessary, to buy hospital service for the contributors requiring hospital care. The corporation enters into contracts with employed persons who make these regular subscriptions, also with hospitals which agree to provide service to the subscribers.

Hospital service plans must be differentiated sharply from other forms of insurance for the payment of hospital bills. Hospital plans provide service, not cash, and the essential feature of the plan is a contractual arrangement by which a group of member-hospitals agree to provide the necessary care to the subscribers and to look to the hospital service corporations for the necessary payment for the services rendered.

There are approximately 2,000 member-hospitals in the 66 approved plans with a bed capacity of nearly 225,000 which represents more than two-thirds of the bed capacity of the voluntary hospitals in the United States. It is in the voluntary hospitals that most of the service to non-profit plan subscribers is rendered, although approximately 130 local government hospitals

and 160 proprietary hospitals are participating institutions in various parts of the United States."

Your Most Valued Possession

What is it? After traveling through pioneer, untrodden and experimental trails, those responsible for the development and progress of the Blue Cross program were guided in their work by the belief that the family is the most valued and cherished of any riches possessed by man. This answers all questions as to why this plan was built around and emphasizes protection to include the family. Sure, the head of the family is usually the breadwinner. But hospitalization or even medical or surgical plans were not designed for and do not provide restoration of loss of income. The purpose is to provide good, adequate and scientific care at a time when required, thereby preserving the health and perhaps the life of those cherished possessions. Then, too, it absorbs the shock of the otherwise financial burden resulting from unexpected hospital bills. Hence the Blue Cross Plan with protection for the whole family and without profit and without charity.

A daily savings of only:

- 2½ cents protects an individual.
- 2¼ cents each, protects a family of 2.
- 1⅔ cents each, protects a family of 3.
- 1¼ cents each, protects a family of 4.
- 1 cent each, protects a family of 5.

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For Sale: Victor Diathermy Machine in good condition, with all accessories including foot switch and clock. Address: L. C. Kuyrkendall, M.D., McAlester, Okla.

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of the cases of irritation of the nose
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ment.

100% benefited

**From tests reported by Laryngoscope,
Feb. 1935. Vol. XLV, No. 2, 149-154*

COUNTY AND STATE MUST COOPERATE TO CONTROL SALE OF RAW MILK

Unless county and state authorities cooperate with city health officials in controlling the sale of raw milk, outbreaks of milk-borne infection are bound to occur, The Journal of the American Medical Association declares in an editorial.

In 1932, the editorial states, The Journal condemned the sale and use of bootleg milk, namely milk offered for sale outside municipal limits and therefore not subject to the regulations governing the sale of milk within the municipality. Several health officers at that time were confronted with the health hazard developed by the sale of milk at roadside stands to residents of nearby cities. Often it came from farms of such insanitary condition that their product could not be offered within the city limits.

Studies by the United States Public Health Service and the former American Child Health Association have demonstrated again and again that milk-borne epidemics are due almost exclusively to raw milk supplies. In many parts of this country, especially the smaller cities, raw milk still constitutes an appreciable percentage of the daily milk distribution. Raw milk unless certified is frequently produced under conditions not conducive to safety. The danger of contamination of raw milk has been recognized even to the extent that producers of certified milk and the American Association of Medical Milk Commissions, which supervises certified milk production, agree that pasteurization would be an additional safeguard even for certified milk.

The sale of raw milk continues in spite of the fact that pasteurized milk is safer. Certainly there is no established evidence to indicate that raw milk is any more desirable nutritionally than pasteurized milk. The Council on Foods and Nutrition of the American Medical Association has published the following decision:

"Milk is an excellent medium for many dangerous bacteria as well as an excellent food for man. Disease germs may enter

the milk directly from an ailing cow, be introduced by insects, or be transferred to the milk by the fingers or mouthspray of persons having to do with the collection or transportation of milk. . .

"The pasteurization of milk is a public health measure. The public should demand pasteurized milk for drinking and the use of pasteurized milk in milk products. The dairy trade should universally adopt pasteurization in the interest of public health.

"There is no cogent evidence that pasteurized milk is significantly inferior nutritionally to raw milk."

Even today bootleg milk stations, also called 'jug stations,' still operate outside the corporate limits and consequently outside the jurisdiction of some cities in which only pasteurized milk, other than certified, is legal. When every possible legal precaution has been taken to protect a community against potential dangers in raw milk, and milk consumers persist in circumventing the local regulations by buying milk from unsupervised sources, the occurrence of milk-borne outbreaks of communicable disease cannot be attributed to any failure on the part of the health authorities.

Squibb Supplies Solution Sodium Ascorbate

For patients who are severely ill or with abnormal requirements of vitamin C such as are connected with surgical procedures, and for patients with poor utilization or faulty absorption of this vitamin, E. R. Squibb & Sons, New York, now supply Solution Sodium Ascorbate for intravenous administration. Made from the sodium salt of pure synthetic ascorbic acid (vitamin C), Solution Sodium Ascorbate contains per 1 cc. an amount equivalent to 100 mg. of ascorbic acid (2,000 U. S. P. XI units of vitamin C). It is supplied in 1-cc. ampuls, packed in boxes of six and 25.

The average dose of Solution Sodium Ascorbate is 1 cc., equivalent to 100 mg. ascorbic acid. (One clinician reports giving as high as 10,000 mg., 10 grams, intravenously in a single dose to an adult.) The Squibb leaflet on this product gives suggested dosages in infantile scurvy, severe adult scurvy, capillary fragility and surgical patients.



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Contains 50% liquid petrolatum
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AFTER-TASTE

MIGHT AS
WELL MAKE
IT A TASTY
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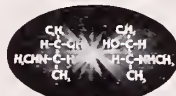


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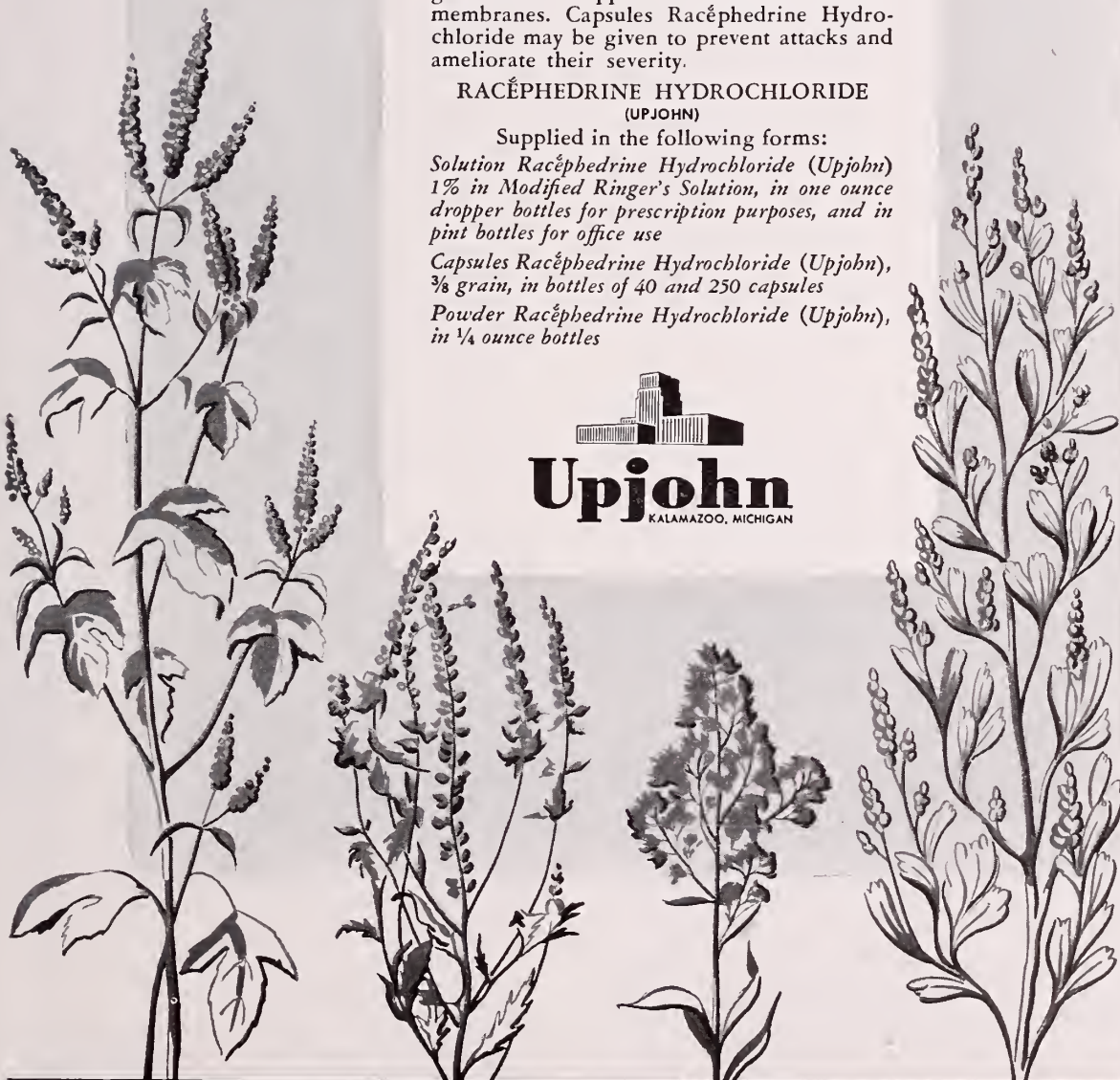
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REVIEWS and CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments From
LeRoy Long Clinic

714 Medical Arts Building, Oklahoma City

"ARRHENOBlastoma OF THE OVARY." A. E. Kanter, M.D., F.A.C.S., and A. H. Klawans, M.D. *The American Journal of Cancer*, December 1940, vol. XL, No. 4, p. 474.

These authors are reporting a typical case of arrhenoblastoma of the ovary with teratoma in a white woman, 32 years of age.

"The arrhenoblastoma is an ovarian tumor, usually unilateral and in most instances benign, which may produce a definite symptom-complex and has typical microscopic characteristics. The clinical picture is that of defeminization and masculinization, a condition that reverts toward the normal following removal of the tumor.

The chief symptoms, as described by Schiller, are hirsutism, with the development of a chin and upper lip beard, masculine pubic escutcheon, and the growth of coarse hair on the chest and extremities; hypertrophy of the clitoris; hypertrophic laryngitis with the acquisition of a deeper and more resonant voice; amenorrhea. Associated with these are atrophy of the breasts, redistribution of fat, broadening of the shoulders, an increased firmness of the skeletal musculature, changes in facial contour with apparent heightening of the cheek bones, acne of the face and chest, and loss of libido."

The histopathology, blood and urinary chemical values, and male sex hormone determinations are discussed.

"When virilism exists in the female, several conditions must be considered in the differential diagnosis. The adrenal gland and the pituitary are both capable of producing conditions which resemble the clinical picture which may result from arrhenoblastoma. Classically we must consider tumors of the androgenic portions of the adrenal gland and the basophilic adenoma of the pituitary gland. Grollman states that tumors of the adrenal cortex proper do no produce virilism, or what he calls the adrenogenital syndrome, this function being a product of tumors in the androgenic zone."

In the study of their patient there was a decrease in serum sodium and an increase in serum potassium with relatively normal urea, non-protein nitrogen, and creatinine. In the chemical urinalysis both sodium and potassium were decreased. They feel that these are important findings because of the difficulties in differentiating very small arrhenoblastoma from adrenogenital syndrome.

"Hormonal studies, at the present time, are of no apparent help. The only factors that might give us a clue as to the precise diagnosis would be a careful blood and urinary chemical study. In the presence of adrenal tumors there is hypertension associated with a decrease in the serum sodium and an increase in the serum potassium. The urinary sodium is increased to three times normal and the potassium is decreased. The differences between these values and the ones found in the case reported here are striking. Also present in the adrenogenital syndrome and not in arrhenoblastoma are increases in the nitrogenous product retention to five or six times the normal value."

COMMENT: While arrhenoblastoma of the ovary is a relatively rare disease, a study of it such as this article

is of practical importance because it brings immediately to mind these three conditions of arrhenoblastoma, adrenogenital syndrome, and basophilic adenoma of the pituitary gland when any patient is seen with defeminization and masculinization. Of probable greater practical importance is the fact that a study such as this one aids in a better conception of the minor variations from normal feminization.—Wendell Long.

"OVARIAN HEMORRHAGE." An Analysis of 28 Cases from the Records of the Jefferson Medical College Hospital, 1930 to 1939 Inclusive. Mario A. Castallo, M.D., F.A.C.S. and Louis G. Feo, M.D.; *The American Journal of Surgery*, July 1941, Page 82.

These authors have analyzed twenty-eight cases of ovarian hemorrhage who have had operations during a ten-year period in their hospital in Philadelphia.

Of their 28 patients, eight had sudden onset, 13 complained of sharp abdominal pain, usually more intense and localized to the right lower quadrant, a few having prior subumbilical pain. "Tenderness of the lower right quadrant was found in 21, noted usually as below McBurney's point, and three in the lower left quadrant." "Nausea occurred in 11 patients, vomiting in four and, significantly, syncope in only three, while slight vaginal bleeding or 'spotting' occurred twice."

In their series a preoperative diagnosis of appendicitis was made 15 times while ovarian hemorrhage was diagnosed correctly in only five instances.

The authors enumerate certain precautions by which they feel that more accurate diagnosis might be made and operation thereby avoided: (1) Recognition of ovarian hemorrhage as a possibility and inclusion in the differential diagnosis of abdominal conditions in women. (2) Evaluation of the symptomatology in the light of its relationship either to the time of ovulation or to the premenstruum. (3) Notation of the normal or slight elevation of temperature and leucocytosis out of proportion to the severity of the pain. Also the recession and gradual disappearance of the symptoms as contrasted to the increasing severity of symptoms and signs in appendicitis. (4) The signs of internal bleeding with an absence of the signs of pregnancy. (5) Notation that the cases lack a history of injury.

In their series 14 patients had free blood in the peritoneal cavity while all of the others had intra-ovarian hemorrhages.

They feel that the proper treatment in cases of ovarian hemorrhage is more or less in agreement because they feel that when in doubt operation should be done.

They likewise feel that conservatism is advocated in the cases brought to operation.

COMMENT: This is an extremely important subject because of the frequency of ovulatory accident associated with varying degrees of hemorrhage in the ovary and from the ovary. The authors are undoubtedly correct in assuming that the proper appreciation of this disease and its symptomatology would do much to prevent unnecessary surgical intervention.

However, it is important to note that in this series 15 of the patients had a preoperative diagnosis of appendicitis and, in patients where there is an honest doubt after careful history and consideration of such diseases as ovulatory accident, urinary tract disease and so forth, one has no choice but the most meticulous observation if the symptoms are mild or operation if the symptoms are reasonably severe.

It should be emphasized that the greatest conservatism should be employed in the average instance of ovarian hemorrhage and the ovary rarely removed because such a situation is only a slightly abnormal physiological process and the presence of ovarian hemorrhage does not condemn that ovary from future perfectly satisfactory physiological activity.

It should also be added that there are a very few rare instances of profuse bleeding from large corpus luteal cysts which require immediate attention and surgical removal.—Wendell Loug.

"AN APPARATUS FOR THE PREVENTION OF POST-OPERATIVE CIRCULATORY STAGNATION." H. D. Cogswell, M.D., and C. A. Thomas, M.D., Tucson, Arizona. Surgery, August 1941, vol. 10, No. 2, p. 323.

It is generally agreed that one of the greatest predisposing causes of postoperative embolism and phlebitis is retardation of the blood flow. Stagnation of the circulation is due chiefly to two factors: lessening of the excursions of the diaphragm, thus diminishing the negative intrathoracic pressure; and lack of muscular contractions and tone which pump the venous blood to the right heart. It has been shown many times that the incidence of these postoperative complications can be greatly lessened by means of muscular exercise which accelerate the circulation. Some have advocated flexing and moving the extremities. One attached a roller at the foot of the bed on which the patient made walking movements. Another uses a device consisting of two bicycle pedals mounted on a broad base for exercising the lower limbs by pedaling.

The authors have devised a simple inexpensive device which uses the same principle. It consists of a frame which loops over the end of a bed and pedals which are mounted on a support extended from the frame. The instrument is portable. There is no possibility of the apparatus slipping and suddenly throwing an unexpected strain on the abdominal muscles of the patient. The heel plates attached to the pedals give support to the legs so that there is no tension on the abdominal muscles, thus protecting fresh abdominal wounds and maintaining muscular strength. Increased resistance to muscular effort is made possible by tightening the bolts at the top of the uprights. More resistance should be added as the patient progresses.

The authors report that all of their postoperative patients, except infants, have used this apparatus routinely, and there have been no complaints of pain, fatigue, or discomfort from its use.

They believe that the stagnation of blood is overcome and that the patient is also aided psychologically by giving him something to do to aid in his recovery.

The exercises are given three times daily for five to ten minutes, beginning the first postoperative day.

Adequate illustrations of the model are given and the statement made that the apparatus may be copied for very slight cost.

COMMENT: Certainly the appearance of postoperative thrombophlebitis or embolism is one of the most distressing incidents in the experience of the surgeon. It seems to me that the routine use of some such simple device as described by the authors would be of distinct benefit and would be preferable to reliance upon voluntary exercises by the patient without any apparatus..—LeRoy D. Long.

"THE PROBLEM OF THE TREATMENT OF PERITONITIS." Charles E. Rea, M.D., Minneapolis, Minnesota. Surgery, Gynecology and Obstetrics, August 1941, vol. 73, No. 2, p. 193.

The author reviewed the literature particularly in regard to the many agents which have been used in treating peritonitis. There is no cure all for peritonitis. Only about half the animals in his experiment could be protected regardless of the agent used. Of the substances used in his study, amfetin and coli-bactragen were no more effective than sodium ricinoleate, one

percent, as far as the survival rates were concerned. The results obtained with the sulfonamides were impressive but it is questioned by the author if the results obtained were significantly better than those obtained with sodium ricinoleate, coli-bactragen, etc.

Clinically it is difficult to judge the value of certain substances in preventing peritonitis, as factors such as the amount and type of contamination at operation, organisms present, type of operative procedure performed, the experience of the surgeon, the condition of the patient, etc., must be considered.

In experimental peritonitis, unless qualitative and quantitative factors, such as the number and type of organisms present, are controlled, the results are meaningless.

Sulfonamide would seem to be most effective in the preperitonitis stage. Once peritonitis has developed, its efficacy is much reduced. Moreover, direct application of sulfanilamide would seem to be more effective than the subcutaneous administration of the drug or the placing of an equivalent amount of the powder under the skin.

In their clinic, sulfanilamide in doses of three grams has been placed in the peritoneal cavity at operation when there was suspected or actual contamination. If frank purulent peritonitis is present, sulfanilamide is not only of little value because it will be inactivated by the protein of the exudate, but it is contraindicated as it may aggravate a hepatitis already caused by the peritoneal infection. Clinically sulfathiazole may prove to be more effective than sulfanilamide in the treatment of peritonitis as the former is less toxic to the liver.

In clean cases there is no indication for the use of any of these agents. In clean incision of the skin in dogs, sulfanilamide affords no higher incidence of healing by primary intention.

In dirty or grossly infected wounds, sulfanilamide is valueless, unless a thorough debridement or cleansing of the wound is performed first.

In the few experiments performed, and in the dosage used, radiation therapy gave little or no protection against peritonitis in rabbits.

The use of hyperimmune serum would seem of value in preventing peritonitis in rabbits. A feasible plan for its use in human cases has not been worked out as yet.

In these experiments, the effect of certain substances in preventing peritonitis in rabbits was studied, controlling the number and type of organisms injected to cause peritonitis. Unfortunately, the same culture could not be used in all the experiments. Of the substances tested, however, none was effective in more than 50 percent of the cases. Sodium ricinoleate, coli-bactragen and the sulfonamides were most effective of the substances tested. The author feels that it may be questioned if sulfonamide is superior to the other substances tested in preventing peritonitis.

In regard to the use of sulfanilamide in the peritoneal cavity he draws the following conclusions: (a) it is not indicated in clean cases; (b) it is most effective in the preperitonitis stage; (c) it is more effective if placed in the peritoneal cavity than if placed under the skin; (d) it is of relatively little value in cases of frank purulent peritonitis.—LeRoy D. Long.

"OBSERVATIONS ON THE PREVENTION AND TREATMENT OF POSTOPERATIVE ATELECTASIS AND BRONCHOPNEUMONIA." Cameron Haight, M.D., and Henry K. Ransom, M.D., Ann Arbor, Michigan. Annals of Surgery, August 1941, vol. 114, No. 2, p. 243.

The presence of bronchial secretions, and the decreased pulmonary ventilation and cough efficiency subsequent to operation are vitally important factors in the genesis of postoperative atelectasis and bronchopneumonia. The prompt recognition of retained bronchial secretions is essential in the prevention of these complications, and the methods for eliciting the physical signs of retained secretions are described. The measures for aiding the cough mechanism are discussed and they are frequently

effective in providing adequate drainage of the tracheobronchial tree. As retention of bronchial secretions occurs in some instances in spite of these measures, retained secretions should be immediately removed by bronchoscopy or tracheobronchial suction *before* the advanced signs of progressing bronchial obstruction and pulmonary infection have developed. A technic for tracheobronchial suction is described; the simplicity of the technic and its applicability when repeated aspirations are required, merit its more frequent use.—LeRoy D. Long.

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M. D.
911 Medical Arts Building, Tulsa

"THE SCOPE OF ELECTROSURGERY IN OTORHINOLARYNGOLOGY." The Eye, Ear, Nose and Throat Monthly, August, 1941. A. R. Hollender, M.D., F.A.C.S. Miami Beach, Florida.

Dr. Hollender gives comprehensive remarks, recapitulating the activities of this particular field. He is the Dean of electrosurgery in otorhinolaryngology in America. His conclusions and summary are as follows:

In the main, the principles of electrosurgery do not differ from those of general surgery. The method should be attempted only by one who has had general experience. Contingencies which may arise in the course of an operation require a thorough familiarity with surgical technic. In addition the operator must have a knowledge of surgical diathermy and its practical application. While electrosurgery has a wide field of usefulness, it also has definite limitations. The well-trained surgeon recognizes these facts and is guided by those principles which have been established on the basis of mature experience.

1. While electrosurgery has served a definite purpose in practically all the specialties, it is doubtful whether any of them has benefited from it as much as has otorhinolaryngology.

2. There are four electrosurgical technics: fulguration, desiccation, coagulation and electrosection, and the use of each depends on the extent and situation of the lesion.

3. The form of analgesia likewise depends on the site and character of the lesion.

4. Electrosurgery has largely replaced canterization for various intranasal conditions.

5. Tags, stumps, remnants and recurrent lymphoid masses in the tonsillar fossa represent indications for electrosurgical removal.

6. Some lesions of the larynx and ear are satisfactorily managed by electrosurgery.

7. In the treatment of malignant neoplasms of the ear, nose and throat, a combination of procedures may be required, followed by adequate radiation.

8. Radical extirpation of malignant growths should be performed without regard for cosmetic effects; reconstruction of anatomic parts is then left to the plastic surgeon.

"THE ALLERGIC NOSE." The Original Article from Northwest Medicine, June, 1941; pp. 213-215. The Following Digest Taken from the Digest of Ophthalmology and Otolaryngology, August, 1941. Norman W. Clein, M.D. Seattle, Washington.

Nasal allergy, in the absence of hay fever or asthma, is usually not recognized as such because of its similarity to the common cold and sinus infection. In children it may also be confused with enlarged tonsils and adenoids on account of obstruction to breathing. This is probably the most common type of allergy. The nasal symptoms are frequently associated with other forms of allergic diseases such as hay fever, asthma, urticaria, eczema, migraine, and gastrointestinal disturbances.

The pathogenesis of allergy becomes apparent to the pediatrician who is in a position to study his patient from birth. Its growth and development are seen in the infant with eczema, persistent colic and vomiting. Eighty to ninety percent of allergic individuals will show these first symptoms before one year of age. This progresses into other forms of allergy such as frequent colds and coughs, the beginning of the allergic nose. Hay fever, asthma, and hives may also occur. Eczema frequently disappears spontaneously at about 18 months of age, only to reappear as another form of allergy, usually nasal and often associated with asthma.

The pathology of allergy is edema and eosinophilic infiltration of the tissue which is involved, whether in the nose, bronchial tubes or gastrointestinal tract. The eosinophiles will migrate through the epithelium and are found in the secretions. Nasal and sinus secretions, therefore, may be valuable as diagnostic agents. The cytology of these secretions may be an index of pathologic process in the tissues. Polyps are always an indication of underlying allergy.

Symptoms of the allergic nose resemble hay fever and have the same basic mechanism. They are usually milder, do not affect the eyes, and occur in any season. In most cases they are as classic as those for other diseases. The adult patient complains of nose trouble, usually of years duration. His nose is "stuffy" usually every night while in bed, and on arising in the morning. This is the one cardinal symptom. He will usually state that in an hour or two after arising his nose becomes clear so that he can breathe freely through both nostrils. During the day the nasal passages are usually open.

His trouble begins when he gets into bed. Within a short time one nostril becomes congested, usually on the side on which he happens to be lying. This obstruction may last for a few minutes or all night. On changing from side to side the nasal stuffiness may also change from one nostril to the other. Usually only one side is closed at a time, although both may be obstructed. Frequently the patient awakens with a dry mouth as a result of mouth breathing. A bad taste as well as a foul odor may be present. On arising he rasps, hacks, and clears his throat, spitting out varying amounts of thick gray mucus. The nose is blown frequently without much result. The patient often has a dull headache or "heavy feeling." Fatigue is often more noticeable in the morning than at the end of a day's work.

Headaches are frequently associated. Migraine, bilious spells and sinus headaches, often occurring behind one eye, on one side of the head or in the occiput are usually part of an allergic condition. In these cases the otolaryngologist will usually discover mild nasal symptoms which will direct his attention to the associated and underlying allergic condition. Deafness, often becoming permanent, may be due to nasal allergy involving the eustachian tubes. Chronic fatigue and general malaise occur with the above symptoms. Other forms of allergy may be present as well.

Seasonal nasal allergy or plain old fashioned hay fever is well recognized. In young children these symptoms are characterized by frequent colds and chronic coughs. They no sooner get over one cold than they come down with another. The nose is always running. Coughing is prevalent, especially at night and early morning. Fever is usually absent. These so-called colds take a long time to clear up.

In a great majority of cases the history will state that the patient has had many varied and bizarre methods of treatment. But they return to the physician with the same complaints and symptoms.

The history is of vital importance as the physical examination may be entirely negative at time of examination. In the physical examination only about 50 percent with allergic nose disease will show characteristic nasal edema and pallor; therefore, the diagnosis cannot always be made on local findings. Have the patient blow each nostril separately to note any obstruction. This is the most simple test.

Diagnosis of nasal allergy is similar in every respect

to that of other allergic conditions. Chronicity of the symptoms, plus the fact that all previous treatment has been of no avail, should immediately suggest an allergic basis for the symptoms. Too much emphasis cannot be placed upon the importance of repeated examinations of the patient and his nasal secretions before disproving the presence of allergy. Nasal smears will almost invariably show a predominance of eosinophiles in allergic nose conditions. It may be necessary to test several smears to confirm the diagnosis.

Roentgen findings of the nose and sinuses in allergic individuals have been quite misleading and misinterpreted, until recent years. Positive sinus findings are the rule rather than the exception, due to edema of the sinus mucosa similar to the nasal edema. Infection of the sinus is not as common a complication of respiratory allergy as generally believed.

Foods as a cause of nasal stuffiness are much less important than inhalant factors. They are more of a factor in infants and young children. After the age of three to four years inhalant factors become predominant. Nasal symptoms due to foods are always more prominent during the daytime.

The patient who is bothered more during the night and early morning is sensitive to allergens which he inhales. The air in his bedroom contains dust which has many minute particles from feathers in pillows, kapok, hair or cotton in the mattress, wool from rugs and blankets, clothes, drapes, pictures, trophies, especially animals, powders, shampoos, perfumes, sprays, smoke, pets, shaving lotions, pollens, molds, any or all of which may be factors irritating the nasal mucosa.

Treatment of allergic disease is often a matter of months and years. It is necessary to plan a program covering the actions and habits of the individual over a period of years. The patient must understand that the allergic study is a diagnostic test, not a treatment. Treatment is governed by results of the testing. Seventy-five to ninety percent of these patients can be given satisfactory relief with proper allergic management.

Specific treatment may consist of one or all of the following: Avoidance of specific allergens, environmental control factors, dust free room, dietary elimination. Specific desensitization with antigens made from pollens, molds, epidermals or dust. This is of greatest importance in the type of case under discussion as the inhalant factors are in the dust in the air of the bedroom. Medication is of very little value other than nose drops such as neosynephrin which gives symptomatic relief.

Although there are definite indications for tonsillectomy in many patients with respiratory allergy, this should not be performed primarily for relief of allergic symptoms. Indications should be the same as without nasal allergy. If tonsillectomy has to be done, this will not materially influence the allergic symptoms. Occasionally surgical procedures afford some relief. In any eventuality, however, operations on the nose should be performed only after treatment of the allergy. Even then such a measure should be resorted to only in carefully selected instances and always after a consultation with a competent allergist.

"VITAMIN C (ASCORBIC ACID)—ITS THERAPEUTIC VALUE IN INFLAMMATORY CONDITIONS OF THE CORNEA." T. Keith Lyle and D. W. McLean. *The British Journal of Ophthalmology*, vol. 25, No. 6, page 286-295, June 1941.

Although during the past few years a certain amount of research work has been carried out upon the somewhat doubtful relationship of vitamin C to development of cataract, little attention has been given to the therapeutic value of this vitamin in inflammation and ulceration of the cornea.

Experimental work on the effects of the liquid mustard gas on the eyes of rabbits by Livingston and Walker showed that ascorbic acid given intravenously was of value in the treatment of the corneal lesions. Recently, the authors began to use ascorbic acid at R.A.F. hos-

pitals in the treatment of inflammatory conditions of the cornea.

Ascorbic acid is known to exist in high concentration in the lens and cornea of the human subject. It is a substance belonging to the group known as redox potentials, which maintains a fine balance between the processes of reduction and oxidation, by acting either as a reducing or as an oxidizing agent, whichever action is called for. It is therefore suggested that by introducing excess of ascorbic acid into the system the metabolism of the cornea might be accelerated, and in consequence the healing of inflammatory conditions of that structure hastened.

The authors used ascorbic acid in the treatment of all cases in which severe inflammatory conditions of the cornea have necessitated hospitalization of the patients. In all instances the usual local treatment was given in addition to the injections of ascorbic acid. There was, for instance, the case of dendritic ulcer of the cornea which had been previously treated by the routine methods without success. Ten and a half weeks after the onset of the ulcer ascorbic acid treatment was commenced and was given intravenously about every other day in 500 mgm doses. The progress made on the new treatment was remarkable. The eye began to improve on the day following the first injection, and thereafter made steady progress. In ten days the ulcer was completely healed, leaving only a faint superficial scar.

Similar amazing results were seen in cases of disciform keratitis, scleritis with early sclerosing keratitis, vaccinal, phlyctenular, and superficial punctate keratitis, and phlyctenular ring ulcer.

In most cases treated, there was no reason to believe that a general vitamin C deficiency existed. It appears, therefore, that the beneficial results are obtained by flooding the bloodstream with excess of ascorbic acid. The vitamin treatment was tried out also in a case of iritis, but it was of no value. In fact, in such cases the vitamin therapy may be of detrimental effect.

For the treatment of corneal inflammations and ulcers the authors recommend the daily injection of 500 mgm of ascorbic acid intravenously until active inflammation of the eye has ceased, preferably followed by ascorbic acid tablets given by mouth (two tablets a day each containing 250 mgm).

"HEADACHES OF OTORHINOLOGIC ORIGIN AND CERTAIN REFLEXES CAUSED BY FIFTH NERVE IRRITATION." John G. McLaurin, M.D., Dallas. *Annals of Otology, Rhinology and Laryngology*, vol. 50, No. 2, page 469-491, June 1941.

It is easier to understand why the nose and the sinuses give so much trouble if it is remembered that there are some peculiar anatomic conditions in this region. The nose is in the most prominent position of the face and is therefore most easily exposed to injury, resulting in deformities of the septum and other abnormalities. In the human being there are two of the paranasal sinuses that do not drain by gravity, namely, the maxillary and the sphenoid. Animals that spend much of their time with their noses pointed downward to the ground rarely have a chronic sinus disease.

The nose and sinuses, from birth until death, are almost constantly subjected to recurrent inflammatory attacks, and these often leave an indelible imprint on the tissues. The center of sensory nerve distribution is the sphenopalatine of Meckel's ganglion. This small nerve tissue is located in the pterygopalatine fossa. It is formed of three roots: the sensory, the sphenopalatine nerve from the superior maxillary division of the trifacial, the great superficial petrosal nerve (motor), and the sympathetic, the great deep petrosal nerve from the internal carotid plexus.

The ganglion is the second largest nerve center outside the cranial cavity, and it innervates and is intimately connected with every region treated by the otolaryngologist. For this reason, it can produce symptoms reflexly to all parts of the head, neck, and shoulders.

It is sometimes quite difficult to distinguish between

the pain of sinusitis and that due to other causes. It is also true that the pain, or we may term it headache, resulting from disturbed conditions in the sinuses is so variable in its manifestations that it constitutes a most inconsistent and uncertain type of evidence in the domain of symptomatology. During recent years there has been a growing tendency to assume that most of the obscure pain in the head is due to sinus disease, and to overlook the fact that sinusitis can exist without pain. It is true, however, that sinus disease and intranasal pressure are the causes of more headaches than anything else, and we must always consider them as etiologic factors when attempting to diagnose obscure headaches.

The conditions in and about the nose that give rise to headaches or neuralgias may be classified as follows:

- (1) those in which the pain is due to acute inflammation in the nose or paranasal sinuses;
- (2) those in which chronic inflammation in these parts is the etiologic factor;
- (3) anatomic variations in structure, which result in pressure contact within the nasal cavities; and
- (4) new growths in the nose and accessory sinuses.

The headache depends largely upon the disease present within the sinus and whether such disease is capable of producing some form of pressure. The pressure may result from such a marked swelling of the lining mucosa of a sinus that the membranes of the opposite walls may be in actual contact and the sinus cavity almost occluded.

Pressure can also result when the normal openings of sinuses become partially or completely closed, thereby causing stagnation of inflammatory products within the cavities. Another form of pressure headache is negative pressure, or so-called vacuum headache. The vacuum frontal sinus headache described by Sluder causes intense pain in the frontal sinus, and this headache is aggravated by movement of the eyeballs.

In acute sinusitis there are two types of pain: (1) a constant type that is more or less localized in the region of the sinus, and (2) the neuralgic type, which is periodic. In chronic sinusitis the pain is not so well localized and is rather indefinite. There is usually a feeling of dizziness, heaviness and dullness and an inability to concentrate.

In acute maxillary sinusitis there may be a dull headache or the pain may be neuralgic. In chronic antral infection there may be no pain, even though there may be severe involvement of the sinus. Headache is the most prominent and constant symptom of acute frontal sinusitis, and it is more marked in the early morning. Chronic frontal sinusitis may or may not cause headache. In acute ethmoiditis, which is a part of almost every cold, there may be some headache during the stage when the membranes are definitely swollen in the region of the middle turbinal bodies and the ostia of the ethmoid cells. The pain is felt around the root of the nose, above the inner angle of the eye, about the temples, front teeth, the parietal regions and sometimes the suboccipital areas. In the chronic types of ethmoiditis, headaches are rather inconstant.

In acute sphenoid sinusitis the headache is an intense sensation of pressure deep in the head, most marked in the posterior half of the head, behind the eyeball, in the vertex and in the mastoid region and middle ear. The pain may extend downwards into the shoulder of the affected side and produce the so-called sphenopalatine syndrome of Sluder.

Intranasal pressure is often the cause of headache. High deviation or thickening of the nasal septum capable of producing tight contact and pressure against the middle turbinals is frequently the cause of headache of varying intensity. Nearly all headaches from intranasal pressure depend upon irritation of the sensory nerve endings in the membrane by some pressure and the effect that such irritation produces on the sphenopalatine ganglion or the anterior ethmoidal nerves.

Another special type of headache is the one called superior cervical sympathetic ganglion syndrome. There

is otalgia and unilateral headache together with tender area in the side of the neck over the location of the superior sympathetic ganglions associated with a nasopharyngitis. The whole syndrome clears up when the nasopharyngitis gets well.

If any branch of the trifacial nerve is irritated by trauma, pressure or an inflammatory process there may be referred pain to any part of the head, eyes, face, teeth, lower jaw, neck, throat, suboccipital region, shoulder girdle, and down the arm to the fingers.

Migraine is frequently mistaken for pain of sinusitis or intranasal pressure, but migraine is probably an allergic phenomenon in which there are no nasal or sinus lesions demonstrable to explain the headache.

"A REVIEW OF MODERN AND RECENT DEVELOPMENTS IN THE SCIENCE OF OPHTHALMOLOGY."
Edward C. Ellett, Memphis, Tennessee. *The Journal of Aviation Medicine*, vol. 12, No. 2, p. 144-152, June 1941.

The author describes recent advances in ophthalmology as related to aviation.

Visual efficiency depends on three factors namely visual acuity, motility, and the field of vision. The first is the test for visual acuity. It is the simplest test, and it should be made properly before any disturbing and dazzling lights are cast in the eye. The tendency among ophthalmologists is to use the metric system and make the tests at six meters. This is equivalent to 20 feet. The test letters are constructed on the Snellen charts on a scale whereby each arm of a letter subtends an angle of one minute and the whole letter an angle of five minutes. A very valuable test for near vision is to have x's and o's arranged in series.

Another test is devised to see how candidates of aviation can read maps. Their depth perception is quickly and easily tested by the Howard apparatus, which is so simple that it can be home-made if necessary. In this test the candidate judges the relative distance of two objects seen without any surrounding objects or background which might influence his judgment.

The question of muscle balance is often very closely related to the question of depth perception. Diplopia, especially latent diplopia, is a matter of great importance. It is readily detected by the simple device of putting a red glass in front of one eye. The dissimilarity of the images and the difference in stimulus afforded by the white and red lights usually make diplopia at once apparent. It is necessary to test not only with the eyes in a primary position, but turned in each of the so-called six cardinal positions. A weak muscle permits diplopia in the field of its action, while in other directions normal single vision is obtained. The presence of squint will disqualify a flyer.

The simplest and quickest test for squint is by observing the reflection of a point of light on the cornea. Not only does this detect a deviation, but it is a quick and fairly accurate way of measuring the amount of deviation, known as the Hirschbrog test. If one looks at a small point of light held directly in front of the examinee, the bright point of reflected light is seen exactly at the center of each cornea. Any deviation of either eye displaces the reflection in that eye. If it is displaced as far as the edge of the pupil, either in or out, a deviation of 15 degrees exists.

Obvious deviations of the visual axis are classed as tropias. Latent errors, the phorias, are much more common. The tests are directed to be made with a Maddox rod before one eye, either in the horizontal or the vertical position. Not so much emphasis is placed on this test as on the duccion tests, which is the ability of the muscles to overcome a prism. Failure to do so causes a diplopia, and the strongest prism a muscle can overcome is the measure of its strength.

Color vision is a matter of great importance and not at all simple. Color blindness is usually congenital and not attended with any defect of vision or pathology of the eye. Acquired forms as in tobacco, alcohol poisoning, etc., are associated with defects in the vision.

The quickest tests of color vision are made with the Stillings or Ishihara plates or the A.O.Co. plates. Failure to qualify with these tests requires further testing by the Holmgren wool or the Jennings test. Accidents could be traced to defective color vision both in aviators and in sailors.

Defects in the visual field are of great practical importance. Gross defects can be discovered by the so-called confrontation test, if the defect is in the peripheral field. Defects in the central field will cause loss of visual acuity.

PLASTIC SURGERY

Edited by George H. Kimball, M. D., F. A. C. S.
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"METHOD OF DETERMINING THE CORRECT SEAT OF THE NIPPLES IN PLASTIC SURGERY OF THE BREASTS. A NEW INSTRUMENT TO FACILITATE IT." Hugo J. Ehrenfeld, New York. N. Y. Neure Anschauungen in der Frage der Korrektiven Haengebrustplastik und ein neues Verfahren. Zbl. F. Chir., 62:628-639, 1935.

The author stresses the importance of locating the nipples in breast plastic operations. He has devised an instrument called "the mastometer."

Summary: 1. In case of plastic surgery of the breast, the choosing of the future seat of the nipples is the surgeon's most important task, since the correctly placed nipples are indispenable in achieving good cosmetic results.

2. The future seat of the nipples can be correctly determined only individually, and by determining the foundation of the breast with regard to the symmetry of both sides.

3. An instrument called the mastometer enables the determination of the foundation of the breast and the future seat of the nipples almost automatically.

Comment: Anyone doing breast plastics will appreciate the use of this instrument. If one nipple is off-balance or off-center the final result is often not satisfactory, especially to the patient.

The author has clarified the article by diagrams and photography.—George H. Kimball, M.D.

CARDIOLOGY

Edited by F. Redding Hood, M. D.
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"FALLACIES IN THE TREATMENT OF HEART DISEASE." White, Paul D. New Orleans Medical and Surgical Journal, 93:565, May, 1941.

As in nearly everything else in human endeavor the best path in cardiac treatment is the conservative one.

"There are two important bits of advice . . . that apply not only to any kind of heart trouble but to many medical and indeed even surgical diseases. They are as follows: First, when things are not going well in the face of much drug or other therapy, try a rest day or two or three without any medicines at all (except in the case of essential rations like insulin), every now and then the result is little short of miraculous in arousing a spark of life, of appetite, or a morale which had been dampened by the very drugs which perhaps at first or on occasion may actually be lifesaving. Life-saving measures may prove too heroic for everyday life and may eventually result in severe depression or worse. The other bit of advice is a corollary. Do not use too many vigorous agents at one time. Each drug or measure may be very valuable and several together may prove vitally helpful, but every now and then in combination too rapidly administered they may do harm.

. . . It is well to follow the middle of the road, even in emergency treatment."

The writer discusses various "cardio-vascular symptoms and signs with reference particularly to therapeutic measures that are commonly carried out but which would be well avoided."

"Palpitation."—There are all kinds of causes for palpitation, most of which are not cardiac in origin; that is, heart disease itself is not the cause of palpitation in the large majority of cases. Therefore, try first to find out the cause for the palpitation—it may be easily discovered and eliminated, for example, fatigue, nervous strain, overeating, coffee, tobacco, alcohol, thyrotoxicosis. Do not give drugs right away, even if you cannot find the cause. In the absence of serious causes, and even in their presence, reassurance so far as the symptom is concerned is in order. For palpitation alone, strong measures like morphine and digitalis are to be avoided; the former may be habit forming and the latter may only increase the uncomfortable heart action . . . unless auricular fibrillation or auricular flutter is present." What has just been said "applies to simple tachycardia and bradycardia, extra systoles and almost all cases of paroxysmal tachycardia. Reassurance, correction or eradication of an obvious remediable cause, and in some cases sedatives or quinidine, are in order, not morphine, bed rest, or digitalis. Even auricular flutter or fibrillation may be so fleeting that it needs little treatment or occasion for apprehension. For frequent recurrence, rations of quinidine sulphate three or four times a day are usually far better than digitalis.

Moreover a person should in no way be considered a cardiac invalid simply because he may have occasional paroxysms of tachycardia or even of auricular fibrillation. He may actually have fewer such attacks if he lives a normal life, avoiding nervous strain and excessive tobacco, but not avoiding moderate exercise (including golf). . . . It is sometimes difficult or impossible, by any known method of treatment (digitalis, quinidine, sedatives, absolute rest, or other measures), to control the ventricular rate in the presence of fibrillation. Reasons for this are several, and one of these should be suspected in dealing with such a case. They include: (1) Infection, often obscure as in the case of a mild or moderately active rheumatic infection; (2) pulmonary embolism or infarction; (3) infarction elsewhere as in heart or kidney; (4) thyrotoxicosis, often not very clear-cut, and perhaps, (5) a highly emotional state. Be patient and treat so far as it is possible these other factors and do not force digitalis with the possibility of poisoning."

"Do not give digitalis to a person simply because he is short of breath." A considerable number of patients referred for dyspnea are getting digitalis but are no better for it. "The clue to most of these cases at once is the finding of a normal heart size. A good rule is that dyspnea is not due to heart failure or obstruction, as from mitral stenosis, if the heart size is normal. Also remember that acute asthma and indeed even pulmonary edema, unilateral or bilateral, may occur reflexly as from a chest tap without heart disease or failure. But, of course, bronchitis may complicate heart disease, and vice versa."

"Precordial pain or heartache is in the majority of cases not due to heart disease. It needs careful appraisal as to cause but in most cases it is relatively unimportant, of nervous origin largely and to be treated in part at least by reassurance. Do not put people with heartache to bed or give them morphine unless you are very sure they need it. A nervous woman of 35 or 40 with precordial pain is very unlikely to be suffering from coronary thrombosis.

"And even substernal oppression is often not anginal pectoris but rather due to spasm of stomach or esophagus, to be treated by belladonna and diet rather than by rest and nitroglycerine. Also in such cases omit tobacco and nerve strain; large doses of reassurance are in order.

"Moreover, syncope and faintness and vertigo are sometimes wrongly ascribed to the heart and treated as such. They are most likely to be due to vasomotor in-

stability or in the case of vertigo to Meniere's syndrome."

When all these various symptoms mentioned above are gathered together in one person, one can almost at once diagnose that bothersome condition called neuro-circulatory asthenia or the soldiers heart, which will rapidly come to the fore again in the present emergency. It is a difficult thing to treat and hence far better to avoid, in high degree at least, in the enlistment of the new army. As to its treatment the writer follows that outlined by Da Costa.

"Cyanosis is commonly due to pulmonary disease rather than heart disease, or when it is the result of heart disease, it comes most often from a congenital defect or from pulmonary congestion and local systemic stasis in mitral stenosis without myocardial failure and is not benefited by digitalis unless the heart rate is high in auricular fibrillation or unless the liver is enlarged and the systemic venous pressure raised, which is not the rule. Nor does oxygen help appreciably, for the fault is a mechanical one. Such cyanosis can be endured with little harm for years. It may cause undue apprehension."

Cardiac enlargement per se requires no treatment unless one wishes to give small or moderate daily rations of digitalis in older persons with large hearts under constant strain with the idea of retarding the appearance of congestive failure.

"Murmurs per se are not to be treated with digitalis or by rest, although factors back of them like luetic aortitis may need therapy."

"Fast pulses do not require digitalis, unless they result from auricular fibrillation, or flutter, and yet the drug is often given with little avail and even with toxic results in thyrotoxicosis, infections, infarction, and excessive nervousness, including neurocirculatory asthenia.

"A slow pulse rate, even in the forties requires no treatment per se, even if heart block is present; only if the block is unstable with pulse dropping low enough to threaten the patient with syncope (a very rare occurrence) is treatment needed. Otherwise a slow pulse is a decided asset.

"The same may be said of low blood pressure. Almost invariably, even when the systolic pressure is constantly at or near 100, such hypotension is an asset." Of course, if the pressure has dropped abruptly from 200 to 100 one has another situation, "but even so, such low pressure is not to be treated if it is uncomplicated by symptoms or other signs."

"Hypertension is to be treated by sensible measures of rest, reduction of weight, and correction of obvious causative factors."

"Edema of the legs, even of both legs, is in the minority of cases due to heart failure. It is most commonly the result of local circulatory fault, with or without varicose veins, phlebitis, or marked obesity."

"Most congestion of the lungs, best seen by x-rays, is not accompanied by rales, and most rales, even at the bases, are due to other than heart failure, although the factors responsible, namely, atelectasis, pulmonary infarction (commonly at both bases), or infection, frequently complicate heart disease or failure (as in acute coronary thrombosis or serious mitral stenosis)."

"Digitalis . . . is an invaluable drug but it is over-used at the present day. . . . Not only are at least twice as many patients receiving digitalis as need it, but twice as much as necessary is given to many of those who do not need it."

"In brief . . . give digitalis only to those persons with clear evidence of heart failure or in whom such failure threatens or is in doubt, and to cases of auricular fibrillation or flutter that do not clear quickly on their own or by the use of quinidine, and not to the great majority of cardiac patients. And when you give it, reduce the dosages you once gave (a few years ago or even now if you have not changed) to about two-thirds or three-quarters strength. Also look out for toxic digitalis effects from vigorous mercurial diuretics in edematous cases."

There are two more "bits of advice which may help to correct other fallacies in cardiac treatment. First, do not give too much morphine to cardiac patients even with coronary thrombosis or acute pulmonary edema. Give enough to dull the pain or dyspnea but avoid overdosage, for morphine and its allies, pantopon and dilaudid, often cause depressing or nauseating effects which can be very disagreeable and indeed definitely harmful. Second, do not rush to try every new remedy suggested in the treatment of coronary disease with insufficiency. None of them is of great value, drugs or surgery, or x-radiation. The old standbys of rest and the nitrites are still the best, although in a few instances aminophyllin and nerve injections do seem to help. Radical measures like total thyroidectomy and implantation of new blood supply have not proved their worth, nor has radiation of the adrenal glands.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D., F. A. C. S.
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"THERAPY IN ACUTE OSTEOMYELITIS OF THE FRONTAL BONE." (Ein Beitrag zur Therapie der akuten Osteomyelitis des Stirnbeines). Arch. f. Ohren-Nasen-u. Kehlkphh., 1940. 147:353.

Suppurative inflammation of the flat cranial bones is particularly dangerous because of the relationship to the cranial cavity. In view of the continuous progress of the illness, radical treatment is necessary. Delayed or semi-delayed treatment as well as x-ray therapy, though effective in isolated instances, is insufficient for the majority of cases. The most radical operation appears entirely justified in view of the fact that new bone formation takes place rapidly, particularly in young individuals. However, it seems desirable to save as much bone as possible, and, if there is no extension of the infection into the cranial cavity, to restrict oneself to decontamination, or the removal of the outer layer. For safety's sake the hard cerebral membrane should be laid open in several places. If it shows pathological change, the inner layer should be removed also. The question of possible disfigurement should be secondary in consideration. Coronal section is recommended.

Gaus reports three cases of suppurative inflammation of the frontal bone. In two instances the patients were children, a girl eight years of age and a boy five years old. The former was brought to the clinic for treatment after a three-day illness, in a state of stupor and with a swelling over the left orbit. The eye itself showed no pathological changes.

The immediate surgical intervention, consisted of a section across the eyebrow, disclosed a focus of pus in the outer portion of the orbit; moreover, an open fistula was seen at the base of the cranial cavity, and this was cleaned out from underneath. On the following day the general condition of the patient was worse and there was evidence of a pasty swelling reaching from the middle of the forehead to the temple. It was necessary to expose the frontal bone more thoroughly by a section reaching medially to the sutura coronalis and by another transverse section reaching to the upper edge of the ear. Under the osseous membrane a few suppurative foci were found; the diploe showed numerous foci of suppuration, and the same condition prevailed on the hard cerebral membrane; it was necessary to remove the entire bone together with the margin of the orbit. No sutures were applied. The child recovered quite rapidly. The subsequent considerable shrinkage of the flap made a plastic operation necessary which was rendered difficult on account of the former having grown to the hard cerebral membrane.

In the case of the boy, a swelling on the upper right eyelid appeared eight days before hospitalization. The swelling spread to the left eye in the course of the following days, a pasty swelling appeared within the radius of the left side of the forehead, and the skin

took on a blue red coloring; there was a high temperature and the patient became unconscious. The frontal bone was exposed by a bilateral section which reached across the eyebrows and was joined by a transversal section across the radix nasi. Since during the process of exposure numerous foci were discovered in the intermediary layer, but the inner bone surface and the exposed portions of the hard cerebral membrane were unaffected, the operation was restricted to decortication and the wound surface was filled with gauze strips saturated with codliver-oil salve. After two days the boy was fully conscious. Recovery was somewhat delayed by the appearance of an ulceration on the child's back.

A considerable shrinkage of the flap made a plastic operation necessary.—Earl McBride, M.D.

"THE CONSERVATIVE COMPENSATION-DEROTATION TREATMENT OF SCOLIOSIS." Steindler, A., and Ruhlin, C. W. *J. Bone & Joint Surgery*, 1941, 23:67.

Since in most cases of scoliosis it is impossible to secure anatomical restoration, measures which realign the spine by compensation—balancing the head and shoulders over the pelvis—are acceptable as a compromise. If adequate musculature is available to maintain balance, satisfactory results can be obtained. In the absence of such muscle power, fusion is required.

The cases are grouped into five types:

1. Those which compensate spontaneously and maintain their correction during the period of rapid growth and after adolescence. These are about 30 percent of the total.

2. Those in which compensation can be secured conservatively and in which adequate muscle tone can be developed to maintain correction. The majority of slight and moderate habitual and rachitic scolioses belong in this group.

3. Those in which adequate compensation can be maintained, and in which adequate muscle power can be developed, but in which compensation is likely to break down because of marked adaptive or congenital osseous changes. This group, including the more severe, progressing habitual types and the congenital cases, probably should be fused.

4. Those in which alignment is possible, but muscle power is inadequate. These include most paralytic cases and probably should also be fused.

5. Those which cannot be adequately realigned because of severe structural deformity. This group comprises the most severe congenital cases, severe habitual scoliosis. The curvature, if it is progressing, fusion should be done. If stable, it should be left undisturbed or treated by support.

Treatment consists of systematic development of the muscle tone and improvement of the mechanical efficiency of the muscles by symmetrical and asymmetrical exercises to develop the back, abdominal, and shoulder muscles, with the formation and maintenance of compensatory curves. During the period of muscle development a brace is applied to safeguard the maintenance of posture until the muscles are strong enough to hold by their own power.

If forced compensation is obtained by the use of a weight-cast, fusion must be done to hold the correction. The authors further state that rotary deformity of the thorax cannot be corrected by any of our present methods of treatment.—Earl McBride, M.D.

"FRACTURES OF THE SHAFT OF THE RADIUS AND ULNA." Hinton, D., and Steiner, C. A. *Surg. Clin. North Am.*, 1940, 20:1669.

This article concerns itself with simple fractures of the forearm which are not displaced or are reducible by manipulation. For general anesthesia the authors prefer vinethene, except in fluoroscopic reductions for which gas-oxygen is used. Immobilization is maintained by anterior and posterior splints.

For fractures of the radius above the insertion of the pronator teres, the supinated position is employed, while fractures at a lower level are healed in midpronation. Splints are removable for the early institution of physical therapy.—Earl McBride, M.D.

"THE CONSERVATIVE TREATMENT OF FRACTURES OF THE HUMERUS." North, J. P. *Surg. Clin. North Am.* 1940, 20:1633.

The author discusses briefly the treatment of fractures of the upper end of the shaft of the humerus. In fractures of the surgical neck with little or no displacement, the use of a sling and swathe is advised. The importance of early active motion, begun gradually four or five days after the injury, is stressed. Fracture of the surgical neck with considerable displacement may result in excellent functional results even though reduction is imperfect. If reduction can be accomplished, the arm can usually be brought to the side and maintained in a sling and body swathe. A plaster abduction spica cast may be required. Occasionally balanced traction may be employed.

In the treatment of shaft fractures, the Caldwell hanging cast is recommended. The author recognized that the method is unorthodox since it does not immobilize the proximal fragment, but states that it works in actual practice despite flagrant violations of the accepted principles.—Earl D. McBride, M.D.

INTERNAL MEDICINE

Edited by Hugh Jeter, M. D., F. A. C. P., A. S. C. P.
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"THE ERYTHROCYTE SEDIMENTATION TEST." M. M. Wintrobe. From the Department of Medicine, Johns Hopkins Hospital and University. *American Journal of Clinical Pathology*, July, 1941, vol. 11, No. 7, p. 562.

This is a very comprehensive and short report on the sedimentation test. Very interesting theories in connection with the phenomenon with which the test is concerned, are suggested. Factors of chief importance affecting the rate are given. Photographs of drops of blood taken from different individuals are shown. Remarks are made in connection with the selection of a method, and clinical value of the test is discussed. In this latter connection it is considered to be a non-specific reaction which should be used to supplement other clinical findings, such as temperature, leucocyte count, etc. The author advocates its routine use similarly to the blood count and urinalysis, stating that the finding of an increased rate should challenge the diagnostic search by the physician in connection with the accurate diagnosis.

It is most unusual to find an increased sedimentation rate in the absence of disease or pregnancy. The fluctuation at menstruation is so slight that it may be disregarded.

Besides serving as a clue to the presence of occult disease, the sedimentation test has been found useful as an objective means for following the course of disease in cases in which fever or leukocytosis, or other signs, are absent or at least are not conveniently measurable. This is true particularly in regard to rheumatic fever and tuberculosis.

A number of observers agree that the sedimentation rate is regularly accelerated in patients with rheumatic carditis, and even minor fluctuations have been regarded as being directly correlated with the clinical course of the disease. In the absence of congestive cardiac failure, a less rapid rate indicates improvement, an increasing rate presages clinical exacerbation.

In the study of cases of pulmonary tuberculosis, the test is widely employed and is unquestionably valuable, particularly in observing ambulatory patients or in following cases in which the pulmonary lesion is in a lung collapsed by pneumothorax.

It is when it has been used as an aid in differential diagnosis that the sedimentation test has received most criticism, although even for this purpose it is an admittedly valuable adjunct. It may be helpful in aiding the differentiation of infections and degenerative arthritis, but sometimes it has been found misleading. Gynecologists have used the test as an aid in the differential

tion of pelvic masses. An accelerated sedimentation rate, other things being equal, favors coronary thrombosis rather than angina pectoris. As in other types of chronic disease in which fever and leukocytosis subside quickly even though the lesion is by no means healed, the sedimentation rate may be used in cases of coronary thrombosis as a guide to the length of time the patient needs to be confined to bed. Unfortunately, "other things" are not always "equal," and confusion in differential diagnosis may be caused by the fact that the suspension stability of the red corpuscles knows no master. The sedimentation rate may as readily be accelerated as the result of an infection or an abscess in some undiscovered location, as following cardiac infarction or reactivation of rheumatic infection, and unless the test is used in conjunction with thorough and repeated examinations of the patient, it may be very misleading.

"CLINICAL AND LABORATORY OBSERVATIONS ON SO-CALLED 'KIDNEY THRESHOLD FOR GLUCOSE'." K. Y. Yardumian and A. N. Alpern. From Department of Pathology, Isaac Kaufman Foundations, Montefiore Hospital, Pittsburgh, Pennsylvania. American Journal of Clinical Pathology, May, 1941, vol. 11, No. 5.

Interesting and practical conclusions as a result of painstaking case studies are reported, such as follows:

After an extensive study and observation of both diabetic and nondiabetic patients, and also from results of limited animal experimentation, we conclude:

1. There is no fixed renal "threshold" for glucose in individuals as a group in health or in disease.

2. The same individual under diverse physiological and pathological conditions will show fluctuation of renal threshold.

3. The condition of the kidneys, the number of functioning nephromes, the rate of infiltration through the glomeruli, the capacity of the reabsorption by the tubules, the maximum concentration of glucose in the blood—all of these factors have an influence on the "renal threshold" at a given time.

4. Pyogenic infection of the urinary tract may contribute to the combustion of free glucose in the urine, thus giving a false negative urine.

5. Any form of infection outside of the urinary tract, including gangrene of extremities, has altered the renal "threshold" with a tendency to high threshold. As soon as those offending conditions subside the threshold drops. Our explanation of this phenomenon is the alteration of the filtration by the glomeruli and absorption of the epithelia of the tubules due to pathological physiology.

6. The practical application of these observations in clinical medicine is that one should not depend on urinary findings alone in the diagnosis and treatment of diabetes especially when there are complications. Furthermore, interpretations of hypoglycemia and glycosuria are not as simple as some investigators have presented them to us.

(a) Excretion of sugar in the urine may be erroneously regarded as incipient diabetes, an error which may have economic, social and psychic consequences of a grave nature for the patient.

(b) It will be just as unfortunate if early diabetes is regarded as benign glycosuria. This mistake in such cases is often not discovered until the disease has progressed far and is perhaps so far advanced that the most opportune time to attack and arrest its development has already passed.

CASES." Abraham Rudy and S. Richard Muellner. Urological Services of the Beth Israel Hospital, Boston.

Neurologic disturbance of the urinary bladder is not uncommon in diabetes mellitus. Its presence should be looked for during an exacerbation of diabetes, and in diabetic patients with urinary symptoms who are on deficient diets, and who have lost much weight.

Bladder disturbances are frequently associated with other abnormal neurologic signs and symptoms.

The prognosis, contrary to the general belief, is fair in properly treated cases.

The treatment should consist of control of the diabetes, and of a diet as nearly normal as possible and high in vitamins and minerals. Vitamin concentrates, especially vitamins B1 and B-complex should be used extensively and for a prolonged period of time. Bladder instrumentation should be avoided in uninfected cases. Constant bladder drainage, chemotherapy and urinary antiseptics are of value, when urinary tract infection is present.

"TREATMENT OF EPIDIDYMITIS BY INFILTRATION OF SPERMATIC CORD WITH PROCAINE HYDROCHLORIDE." Donald R. Smith, University of California Medical School, San Francisco, California.

A new method of treatment for epididymitis was tried with very satisfactory results in relieving pain and hastening cure of this disability.

Fifteen patients suffering from epididymitis were subjected to spermatic cord infiltration with one percent novocain; 10 to 20 cc. of solution injected in the cord region just above the testicle.

The authors state that in all but one case immediate relief from pain was obtained, and after one or two hours in the majority at most, only a mild discomfort was complained of. No untoward reactions or complications occurred with this method.

Timely . . .

Since the human body does not store Vitamin B1 in adequate quantities, it is especially desirable to get it at every meal. Two slices of ButterKrust Vita-B Bread at mealtime will help to prevent a deficiency.



Contains all the vitamins
found in wheat.

UROLOGY

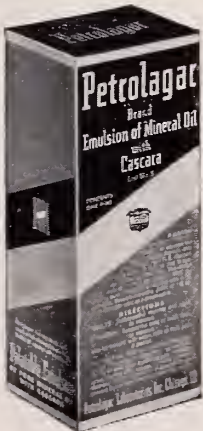
Edited by D. W. Branham, M. D.
502 Medical Arts Building, Oklahoma City

"THE NEUROGENIC BLADDER IN DIABETES MELLITUS: EARLY RECOGNITION WITH A REPORT OF



For Stubborn Cases...

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Stubborn cases of constipation usually yield to Petrolagar with Cascara.

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*Petrolagar—The trademark of Petrolagar Laboratories, Inc., for its brand of mineral oil emulsion—liquid petrolatum 65cc. emulsified with 0.4 Gm. agar in a menstruum to make 100 cc.

OFFICERS OF COUNTY SOCIETIES, 1941



COUNTY	PRESIDENT	SECRETARY	MEETING TIME
Alfalfa.....	H. E. Houston, Cherokee	L. T. Lancaster, Cherokee	Last Tues. Each 2nd Mo.
Atoka-Coal.....	J. B. Clark, Coalgate	J. S. Fulton, Atoka	
Beckham.....	H. K. Speed, Sayre	T. W. Pratt, Cheyenne	Second Tues, eve.
Blaine.....	L. R. Kirby, Okeene	W. F. Griffin, Watonga	
Bryan.....	J. T. Colwick, Durant	W. K. Haynie, Durant	Second Tues, eve.
Caddo.....	E. W. Hawkins, Carnegie	G. E. Haslam, Anadarko	
Canadian.....	P. F. Herod, El Reno	A. L. Johnson, El Reno	Subject to call
Carter.....	R. C. Sullivan, Ardmore	H. A. Higgins, Ardmore	
Cherokee.....	P. H. Medearis, Tahlequah	Isadore Dyer, Tahlequah	
Choctaw.....	C. H. Hale, Boswell	Floyd L. Waters, Hugo	
Cleveland.....	D. G. Willard, Norman	Phil Haddock, Norman	Thursday nights
Comanche.....	G. G. Downing, Lawton	Donald Angus, Lawton	
Cotton.....	Mollie Seism, Walters	R. M. Van Matre, Walters	Third Friday
Craig.....	Powell L. Hays, Vinita	Paul G. Sanger, Vinita	
Creek.....	P. K. Lewis, Sapulpa	Wm. P. Longmire, Jr., Sapulpa	
Custer.....	C. Doler, Clinton	W. C. Tisdal, Clinton	Third Tuesday
Garfield.....	V. R. Hamble, Enid	John R. Walker, Enid	4th Thursday
Garvin.....	Robert M. Alexander, Paoli	John R. Callaway, Pauls Valley	Wed. before 3rd Thur.
Grady.....	Turner Bynum, Chickasha	Roy E. Emanuel, Chickasha	3rd Thursday
Grant.....	I. V. Hardy, Medford	E. E. Lawson, Medford	
Greer.....	J. B. Lansden, Granite	J. B. Hollis, Mangum	
Harmon.....	Samuel W. Hopkins, Hollis	Wm. M. Yeargan, Hollis	1st Wednesday
Haskell.....	Wm. S. Carson, Keota	N. K. Williams, McCurtain	
Hughes.....	William L. Taylor, Holdenville	Imogene Mayfield, Holdenville	First Friday
Jackson.....	Raymond H. Fox, Altus	Willard D. Holt, Altus	Last Monday
Jefferson.....	D. B. Collins, Waurika	J. I. Hollingsworth, Waurika	
Kay.....	J. G. Ghormley, Blackwell	L. I. Wright, Blackwell	3rd Thursday
Kingfisher.....	F. C. Lattimore, Kingfisher	H. Violet Sturgeon, Hennessey	
Kiowa.....	J. M. Bonham, Hobart	J. L. Adams, Hobart	
Le Flore.....	G. R. Booth, Le Flore	Rush L. Wright, Poteau	
Lincoln.....	J. W. Adams, Chandler	C. W. Robertson, Chandler	First Wednesday
Logan.....	Wm. C. Miller, Guthrie	J. L. LeHew, Jr., Guthrie	Last Tuesday evening
Marshall.....	John L. Holland, Madill	J. F. York, Madill	
Mayes.....	S. C. Rutherford, Locust Grove	E. H. Werling, Pryor	
McClain.....	B. W. Slover, Blanchard	R. L. Royster, Purcell	
McCurtain.....	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow	4th Tues. eve.
McIntosh.....	D. E. Little, Eufaula	W. A. Tolleson, Eufaula	2nd Tuesday
Murray.....	P. V. Annadown, Sulphur	O. D. Thomas, Sulphur	
Muskogee.....	A. N. Earnest, Muskogee	S. D. Neely, Muskogee	1st & 3rd Monday
Noble.....	J. W. Francis, Perry	C. H. Cook, Perry	
Okfuskee.....	J. M. Pemberton, Okemah	L. J. Spickard, Okemah	2nd Monday
Oklahoma.....	George H. Garrison, Okla. City	W. W. Rucks, Jr., Okla. City	4th Tuesday
Oklmulgee.....	I. W. Bollinger, Henryetta	M. D. Carnell, Okmulgee	2nd Monday
Osage.....	T. A. Ragan, Fairfax	George Hemphill, Pawhuska	2nd Monday
Ottawa.....	J. W. Craig, Miami	L. P. Hetherington, Miami	Last Thursday
Pawnee.....	M. L. Saddoris, Cleveland	Robert L. Browning, Pawnee	
Payne.....	A. B. Smith, Stillwater	Haskell Smith, Stillwater	3rd Thursday
Pittsburg.....	W. H. Kaeiser, McAlester	Edw. D. Greenberger, McAlester	3rd Friday
Pontotoc.....	E. M. Gullatt, Ada	R. E. Cowling, Ada	1st Wednesday
Pottawatomie.....	R. M. Anderson, Shawnee	Clinton Gallaher, Shawnee	1st & 3rd Saturday
Pushmataha.....	E. S. Patterson, Antlers	D. W. Connally, Antlers	
Rogers.....	W. A. Howard, Chelsea	P. S. Anderson, Claremore	1st Monday
Seminole.....	Claude S. Chambers, Seminole	Mack I. Shanholtz, Wewoka	
Stephens.....	E. C. Lindley, Duncan	John K. Coker, Duncan	
Texas.....	L. G. Blackmer, Hooker	Johnny A. Blue, Guymon	Subject to call
Tillman.....	T. F. Spurgeon, Frederick	O. G. Bacon, Frederick	
Tulsa.....	J. C. Brogden, Tulsa	Roy L. Smith, Tulsa	2nd & 4th Mon. Eve.
Wagoner.....	H. K. Riddle, Coweta	S. R. Bates, Wagoner	
Washington-Nowata.....	S. A. Lang, Nowata	J. V. Athey, Bartlesville	2nd Wednesday
Washita.....	A. S. Neal, Cordell	James F. McMurphy, Sentinel	
Woods.....	C. A. Royer, Alva	O. E. Templin, Alva	Last Wednesday
Woodward.....	Joe L. Duer, Woodward	C. W. Tedrowe, Woodward	

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Foreign Bodies of the Air and Food Passages: Some Observations on a Series of 220 Cases*

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This series of consecutive cases has been carefully listed and certain features of importance tabulated for each case. The writer feels that information of value may be obtained from a study of such a series of cases and more especially from consideration of mistakes revealed by such a study.

Each case has been tabulated according to: the age of the patient; the sex of the patient; the nature of the foreign body; the location of lodgment of the foreign body; the length of time the foreign body had been present in the patient; the mechanical problem of removal presented and the solution used; the type and size of endoscopic speculum employed; the type of forcep employed; the anesthesia used, if any; the result of treatment of the patient; and finally, comments upon important features or complications.

These individual tabulations will be discussed in turn and some statistical data shown by tables.

AGE INCIDENCE

	No.	Percent
Under 1 yr.	20	9 %
1 to 2 yr.	32	14.5%
2 to 3 yr.	26	11.8%
3 to 10 yr.	56	25.4%
0 to 10 yr.	134	60.9%
10 to 20 yr.	25	11.3%
20 to 40 yr.	19	8.6%
40 to 60 yr.	29	13.2%
60 to 80 yr.	13	5.9%

It may be seen from the table that one-third of the patients were three years of age or less, while 60 percent of the total number were in the first decade of life. The significance of this is of course that small children

more often place objects in their mouths which should not be placed there. We feel quite sure that only a very small portion of the foreign bodies swallowed by small children ever come to the attention of the endoscopist.

The sex of the patients would seem to have no significance. One hundred and twenty-five were males and ninety-five female.

The foreign bodies encountered varied greatly in type. Practically everything small enough to pass or be pushed into the larynx or esophageal orifice has been reported in the literature. The largest single group of objects are those which we classify as being due to food accidents. Of these there were 94 cases or 42 percent of the total. These are listed below.

FOOD ACCIDENTS

Bones	27
Nuts	23
Meat	12
Watermelon seeds	12
Apple	2
Beans	5
Eggshell	3
Oyster Shell	1
Apricot seed	1
Popcorn	2
Pecan shell	1
Artificial teeth	2
Sandburr	1
Wire	2

The most frequent of these, bones and meat, were all encountered in adult patients. Most of these individuals were wearers of artificial dentures, hence without the normal tactile sense of the gums, palate and teeth. Some of them attempted to swallow bones because they had not been aware of their presence.

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Others attempted to swallow a very large bolus of meat because of difficult or painful chewing. The nuts and watermelon seeds were found in children, usually children who were too young to be safely entrusted with foods containing such items. The apricot seed was over one inch in diameter and the would-be swallower would seem to have been extremely careless. The sandburr, apparently wrongly listed as a food accident, was swallowed with a bite of blackberry pie. We may blame this one on the cook. The two pieces of wire were encountered in pastry from commercial bakeries. They were apparently fragments of a wire screen or sieve used in the bakeries.

Metallic objects of various sorts, none of which should ever be placed in the mouth, make up over one-third of the total number of foreign bodies. Vegetable objects, particularly those which are prone to cause severe inflammatory reaction in the tracheo-bronchial mucosa comprise one-fourth of the total. A listing of the most common metallic objects and of those vegetable objects which should always be regarded as dangerous is given below.

METALLIC

Coins	25	
Safety pins	18	
Nails and tacks	9	
Pins	11	
Wire	4	
Toys	11	
	78	37.2%

VEGETABLE

Nuts	23	
Seeds	15	
Beans	9	
Apple	2	
Grass	3	
	56	25.4%

The discrepancy in the number of beans reported above and the number listed as food accidents is accounted for by the fact that several were dried beans which had been given to small children as toys with which to play. The remainder of the list of different objects encountered varies from a beer bottle cap, in an individual who had been uncapping homebrew with his teeth, to pieces of plaster from a crumbling wall near which a baby had been placed on the floor to play.

The location of the foreign body in the air or food passages is of course of great importance in considering ways and means for its removal.

	LOCATION	
Esophagus	115	52.2%
Trachea and bronchi	79	
	101	45.9%
Larynx	22	
Stomach	1	
Nasopharynx	1	
Mediastinum	2	

In consideration of this tabulation we must remember that the esophagus is an organ which physiologically accepts material presented to it. It undoubtedly accepts a multitude of things which it would better reject. However the greater portion of them pass on without causing trouble. The mere acceptance of a foreign object by the esophagus does not necessarily imply that trouble will arise. On the other hand the air passages do not physiologically accept foreign material. They have an efficient mechanism to repel invaders. The cough reflex and the laryngeal reflexes refuse to accept foreign bodies except under unusual conditions. However when a foreign object has once passed the upper gateway to the air passages and is not expelled by cough it sooner or later causes trouble and comes to the attention of the doctor. The case listed as a foreign body in the nasopharynx was a safety pin which had been regurgitated from a very small baby's esophagus into the nasopharynx. It was removed with extreme difficulty under the fluoroscope because the nasopharynx was so small it would not permit visualization of the pin nor admit both a palpating finger and a forcep at the same time. The one object listed in the stomach was a large gastrostomy tube. The surgeons in charge were preparing to remove it by laparotomy when our resident happened along and suggested endoscopy.

The time during which a foreign body is allowed to remain in the air or food passages is of importance because in a general way the sooner the intruder is removed the less the incidence of complications. This information was obtainable in only 201 cases.

LENGTH OF SOJOURN

Less than 12 hours	61	30.3%
12 hours to 2 days	67	33.3%
2 to 7 days	48	23.2%
1 week to 1 month	15	7.4%
1 month to 1 year	7	3.4%
Over 1 year	3	1.4%

It may be seen that nearly one-third of the foreign bodies were removed within 12 hours of their lodgment and nearly two-thirds within two days. The importance of early removal may be exaggerated in certain types of cases but only one who has seen a large number of such cases should feel safe in advising delay. Those patients in whom foreign bodies have remained for long periods

of time all have some permanent pathological sequelae.

Each patient presents a physiopathological problem as well as the mechanical problem of removal of the foreign body. Some of them become quite simple and easy to manage as experience is gained. Others do not. The primary consideration, as with all our dealing with patients, is the safety of the patient. Some of these patients have been brought to us in such condition that they needed tracheotomy and vigorous supportive treatment for several days before any attempt to remove the foreign body could safely be made.

The mechanical problems of foreign body removal are at times rather simple if proper equipment is at hand. A healthy two year old child with a coin lodged in the upper esophageal orifice does not present a difficult problem. On the other hand a child with a bean in the trachea which has swollen so that the foreign body can no longer pass through the larynx is in a much more serious condition. Some foreign bodies such as safety pins and irregularly bent pieces of wire must be grasped in such a way that their sharp points cannot lacerate tissue when traction is made upon them. Thin flat pieces of bone with sharp edges and sharp corners must be turned so that the corners will trail behind when traction is made upon them, or the corners may have to be broken off by manipulation between the forceps and the mouth of the endoscopic tube. At times one must withdraw without attempting removal of the foreign body, work out the mechanical problem with a duplicate foreign body on the practice board and perhaps even send to the instrument maker for a forcep or an endoscope devised to fit that particular problem. Some objects can be removed safely only under the guidance of a double-plane fluoroscope. This requires a well trained team and especially designed equipment if it is to be done with a safe degree of facility.

Jackson describes 16 different ways in which the problem of the open safety-pin can be solved. In this series only four of these methods have been employed. Some have been closed in the esophagus by the aid of an esophagoscope designed for the purpose by Mosher. Some have been removed after the pointed arm had been grasped and the point sheathed within the tube mouth. Some have been rotated in the flatwise plane and removed with the point trailing. Others have been grasped by the keeper and the pin straightened out by forcibly pulling it into the tube mouth. There is always danger of perforation of the esophageal wall in removal of a safety-pin and each method has been used in circumstances which seemed to render that method best.

The problem of a large object in the trachea, which because of swelling of the subglottic tissues or swelling of the foreign object or both, may become impacted tightly in the larynx has been solved by the performance of a tracheotomy before attempted removal of the foreign body. If the foreign body then lodges in the larynx the patient can still breathe through the airway established below the point of obstruction.

The question as to whether general anesthesia should be employed arises in nearly every case. A general anesthetic carries with it the risk of a certain added morbidity and even of a certain very small mortality. On the other hand, the removal of some foreign bodies without the relaxation afforded by general anesthesia carries in our hands a greater risk of serious complications than that arising from anesthesia. In making this decision we must consider the general condition of the patient, his age, his mental state, the nature of the foreign body, the location of the foreign body, the length of time it has been present, the amount of tissue reaction to its presence, the degree of airway obstruction present or apt to be present during operation, the availability of trained assistants and the availability of trained anesthesiologists. When there is already marked obstruction of the air passages general anesthesia is of course contraindicated. When the circumstances are such that the foreign body may be safely and quickly removed in spite of the absence of relaxation of the patient the use of general anesthesia is not warranted. The table below gives the type and incidence of anesthetics in this series.

ANESTHESIA

None or local	98	42.2%
Ether	107	46.1%
Avertin (alone)	14	
Evipal	4	
Pentothal sodium	8	
Chloroform	1	
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It may be noted that some form of general anesthesia has been used in over half the operations. The total number of anesthetics is greater than the number of patients. Several patients had two or more endoscopies. Two of them had as many as three general anesthetics. In certain instances, especially when bronchoscopy is necessary in small children, we have formed the definite opinion that there is less morbidity and certainly a lesser incidence of necessary post-operative tracheotomy when ether anesthesia is used. Relaxation of the patient enables us to work with a great deal less trauma than when a comparatively large amount of force must be used.

It may be noted that avertin has been used in 14 instances. Its use has been discontinued by the writer because in relatively safe dosages it does not afford the relaxation which is the desideratum of a general anesthetic. The intravenous anesthetic agents, evipal and pentothal sodium, tend to produce respiratory depression and cause laryngeal spasm at times. However the anesthetists maintain that with experience they have solved this difficulty and that pentothal sodium may be safely used at least for short esophageal procedures.

In general the writer prefers the use of ether when general anesthesia is indicated. If an expert anesthetist is available gas induction is often used.

There has long been a prevalent opinion, especially among those not familiar with the care of such patients, that there is quite a high mortality associated with the removal of foreign bodies from the air and food passages. On the contrary the mortality given in all the large published series of cases has been quite low. In this series of 220 consecutive patients there were seven deaths, giving a mortality of 3.18 percent.

With one exception all the patients who died were 18 months of age or younger. Three of them were under one year of age.

The one adult fatality was a man of 25 who developed mediastinitis following removal of a piece of head cheese from his esophagus. This patient was treated about nine years ago before the feasibility of surgical drainage of the mediastinum was realized. His life might have been saved by cervical mediastinotomy.

One infant with a navy bean in the trachea died of severe suppurative tracheobronchitis five days after the bean had been broken up in removal. A second small child with a navy bean in the trachea died before a tracheotomy could be done when the bean stuck tightly in the larynx on attempted removal. The performance of a tracheotomy before attempted removal would possibly have saved the lives of these two patients,

Both of the patients who had pieces of apple in the lower air passages died. In the first the foreign body had been present seven days and was removed on a kitchen table in a neighboring town. There was severe inflammation and profuse exudation present. Death occurred two days later from so-called pneumonia. Had this child been brought to a hospital where better postoperative treatment could have been carried out she might have survived. The second patient with apple as a foreign body was an infant of nine months who had marked laryngeal obstruction and severe tracheitis on admission.

Tracheotomy was done and the foreign body removed but death ensued three days later in spite of all treatment used.

There was but one fatality in the group of nut cases. A child of 18 months who had aspirated some peanut from peanut candy five days before presented atelectasis of the left lung and severe tracheobronchitis on admission. Several pieces of nut were removed from the left bronchus and a tracheotomy performed. Despite all efforts to maintain aeration of the lungs and supportive medical treatment she died 40 hours post-operatively.

There was one fatality in the group of metallic foreign bodies. A five month old infant had aspirated a rusty "bobby pin" four days before admission. The baby was given a small dose of avertin and the pin removed with some difficulty because of struggling. There was marked inflammation of the trachea but no evidence of laryngeal obstruction until eight hours after operation. Tracheotomy was performed and an oxygen tent used but death occurred 40 hours after removal of the pin. We could not determine that the anesthetic was a factor in the outcome but it at least did no good. Incidentally this was the only fatal case in which a general anesthetic was used.

With increasing experience the treatment of complications arising from the lodgment of foreign bodies and from their removal is gradually becoming more efficient. The serious complication of esophageal foreign bodies is mediastinitis following perforation of the esophageal wall. Three instances of mediastinitis were encountered in this series. The first, a fatal case, was briefly reported above. The other two were adult males, each of whom had mediastinitis on admission. One had swallowed a chicken rib and one a piece of rabbit bone. With the assistance of a general surgeon a cervical mediastinotomy was performed, unilaterally in one patient and bilaterally plus a tracheotomy in the second. Each had a very stormy course and finally made a full recovery. In neither instance was the foreign body recovered, though the wound in the esophageal wall was seen in each instance and the bone was demonstrated by x-ray in one of them.

The complications arising from foreign bodies in the air passages are due mainly to mechanical obstruction of the airways. Acute obstruction results in asphyxia and long continued obstruction results in suppurative pneumonitis and bronchiectasis. There is extreme general toxicity accompanying suppurative tracheobronchitis in infants and expert pediatric care plus the use of the new chemotherapeutic agents has been responsible for the survival of many of them. Relief of acute respiratory obstruction is af-

forded by tracheotomy. However in many instances the performance of tracheotomy would be absolutely useless unless the constant attention of a nurse trained in the care of these patients is provided. In this series 15 tracheotomies were performed, three of

them before attempted removal of the foreign bodies.

In the review of this series of cases the writer has attempted to summarize certain features of interest and to take note of his mistakes so that future care of such patients may be more efficient.

The Value of Frei Antigen of Chick Embryo Origin in the Diagnosis of Lymphogranuloma Venereum*

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AUGUSTA, GEORGIA

The usefulness of Frei antigen as a diagnostic test when prepared from bubo pus of patients suffering with lymphogranuloma venereum has been well established. The limited supply of antigen and the difficulty of distribution is at once obvious. Grace and Suskind¹ produced experimental meningo-encephalitis in white mice using the virus of lymphogranuloma venereum, and thereby a useful source of antigen was made available by using an emulsion of infected mouse brain. However, the difficulties of propagating the virus in the experimental animal made the test somewhat too expensive for general use.

In 1936 Burnet² suggested that the virus of lymphogranuloma venereum could be successfully cultivated on chick membranes. The success which Goodpasture and his group³ have had with the cultivation of different viruses on the membranes of hatching eggs, encouraged the group at the University of Georgia School of Medicine (Dienst, Sander-son and Greenblatt)⁴ to try to cultivate the virus of lymphogranuloma venereum on chick membranes. After inoculating ten day old chick membranes, the membranes were removed after four days incubation and an antigen prepared from the ground-up membrane. The antigen thus prepared proved unreliable and feeble in provoking skin reactions in known cases of lymphogranuloma venereum. In 1938 an improvement in the technic for the growth of viruses was suggested by Cox⁵ whereby the egg yolk sac instead of the membrane is used. In 1940 Rake and his associates⁶ used this technic and reported that the virus of lympho-

granuloma venereum was found to multiply very readily in the walls of the yolk sac. Centrifugation of yolk sac suspension at high speed gave a sediment of small granules described as specific for the agent of lymphogranuloma venereum. A high degree of infectivity compared to the supernatant fluid obtained after rapid centrifugation was shown to exist. Because of the greater constancy of propagation and concentration of potency and easier mode of preparation, it is felt that yolk sac preparations will replace the other types of Frei antigens now in vogue.

INTERPRETATION OF THE TEST

Some 300 tests were performed on 40 patients known to have lymphogranuloma venereum. Many others were used for controls. Frei antigen of chick embryo origin was specially prepared for this study in three concentrations—undiluted, 1:10, and 1:30.* Non-infected egg yolk was prepared similar to the antigen and in same dilutions and used as a control. It was found that the 1:10 dilutions of egg yolk antigen gave the most satisfactory results. The test was performed by injecting 1-10 cc. of the 1:10 dilution of egg yolk antigen intradermally into the forearm. A control test was performed at the same time. The skin tests were read at 48 and 72 hours. A positive skin test was one in which there was an area of induration of at least 5-6 mm. in diameter. The erythema surrounding this area varied greatly and it was found to be of no significance for with the controls a large zone of erythema with no or minimal induration could frequently be obtained. Frequently a central bleb or pustule capped the indurated area and signi-

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*Prepared by Dr. R. G. Wykoff of Lederle Laboratories, Inc.

fied a strong positive reaction. The controls rarely ever provoked more than 2-3 mm. of induration. Usually induration with the controls was not present. Whenever the control showed 4 mm. or more of induration the positive reaction could not be accepted as specific. A positive reaction may therefore be defined as a reaction in which the induration measured 5-6 mm. or more in diameter while the control measured 3 mm. or less in diameter. The following case illustrates a false positive response to Frei antigen in a patient 39 years of age with chronic recurrent attacks of herpes progenitalis. A diagnosis of lymphogranuloma venereum had been made by the physician who referred the case to us for study, because of a strong positive Frei reaction (mouse brain antigen). No control test had been done. Ducrey vaccine skin tests for chancroid disease and blood serology tests for syphilis were negative.

control test. A positive reaction is one in which 0.1 cc. of antigen injected intradermally induced an area of palpable induration measuring at least 5-6 mm. in diameter at the end of 72 hours, provided the control test performed simultaneously shows less than 4 mm. induration. Doubtful positive responses and false positive reactions should be repeated after a two week interval.

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Frei antigen (pus) (a)	Frei mouse brain antigen	Mouse brain control	Frei antigen Egg Yolk Origin		Egg Yolk Control No. 1
			No. 1 I E	No. 2 I E	
I E 5 x 5	I E 8 x 14	I E 10 x 15	12 x 12	9 x 9	I E 5 x 5

When the patient was retested two weeks later the reactions were as follows:

Frei Chick Embryo No. 5	Egg Yolk Control No. 2	Frei antigen (pus) (b)	Frei antigen (pus) (c)	Frei antigen (pus) (d)
I E 2 x 4	I E 0 x 10	I E 5 x 5	I E 0 x 0	I E 4 x 4

Readings in 72 hours. I—Induration. E—Erythema.

It is evident that the non-specific response to both mouse control and egg yolk control minimizes the value of even a strong positive response to the antigens. The performance of control tests will therefore aid materially in the evaluation of false positive reactions. In general it was found, as the above case amply demonstrates, that false reactions or non-specific responses to egg yolk antigens and controls were less frequent than when mouse brain antigens and controls were used. Pus antigens, heretofore considered as most specific, cannot be used because of lack of suitable material for control tests.

CONCLUSIONS

Frei antigen of chick embryo origin is recommended as a skin test for the diagnosis of lymphogranuloma venereum. This antigen is preferable to mouse brain antigen in that false positive reactions are less frequent. It is more satisfactory than the original Frei antigen, since with the latter suitable material for control testing is not available. Every test should be accompanied by a

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The Practicing Physician and the Public Health Department*

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In the early history of the United States practically all public health work was done by practicing physicians as part of their civic duty. Occasionally, in time of an epidemic, a temporary commission of physicians was appointed by government—state or local—to deal with the immediate situation. When the outbreak ceased, the commission was discharged. This was used as late as 1870 in New York. The medical profession, individually and as an organized body, was a potent factor, in fact often the only instrumental agency in the community, for protection of the public health.

As community responsibility in these matters grew more and more apparent, it became the general custom of local governments to employ resident physicians on a part-time basis, to carry out certain community health functions, such as isolation and quarantine, fumigation, sanitary inspection, and medical examination of school children.

The conception of full-time public health executives, especially trained for their work and with suitable tenure of office, is a relatively recent one. Everyone familiar with the field of public health is now quite cognizant of the fact that public health administration, epidemiology, vital statistics, public health laboratory work, child hygiene activities, sanitary engineering, public health nursing, health education, industrial hygiene and the like are all special techniques that require special training and experience. The standard medical training as given in our best medical schools does fit a physician to assume his public health responsibilities as a *practicing physician*, but does not equip him to do public health work.

Once the principle was established that public health work was a special career, requiring special training and experience, the pendulum swung too far in the opposite direction, with the result that many health departments tended to exclude all part-time medical personnel, and to carry out all the work of the department with a full-time staff. This is quite proper in state or federal

health activities where the very nature of the work is consultative and advisory and where direct service is not rendered. Wherever direct service is rendered, however, as is the case in all local health departments, the resident practicing physician should play a part of greatest importance. When a private physician is engaged for health conference service he should be paid. The health department represents organized society, through government, and it is society's responsibility to bear its own financial burdens. No health officer can carry on satisfactory work without the cooperation and wholehearted support of the organized medical profession of his community. No physician can practice modern medicine in an effective way without the aid of a well organized, effective health department. The dependence of one on the other is mutual, and success is contingent upon mutual understanding and confidence. The health officer should have a real consideration for, and sympathy with, the point of view of the physician; the latter, in turn, should realize that the health department has its difficulties and sometimes makes mistakes.

In the past, a good deal of friction and misunderstanding has arisen between the official health agencies and the practicing physicians. This is entirely unnecessary, but understandable. It has been due in great part to a lack of consideration on the part of the health officer or members of his department for the viewpoint of the physician, and a lack of understanding by the physicians of the purposes and objectives of the health department. One principle must be kept in mind. The fundamental purpose of both the physician and the health department is the same. They are striving for the better health and thus greater happiness of the community.

Much of this misunderstanding and difficulty has arisen between the health department and physicians in regard to immunization programs, particularly for the prevention of typhoid fever, smallpox, and diphtheria. Whenever physicians incorporate standard preventive measures in their private practice, the health department can relinquish immunization programs. This would

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mean that each and every physician would assume responsibility for each baby delivered in his practice, and would guarantee to immunize each baby against both smallpox and diphtheria before he reaches one year of age.

The logic of the health department is clear-cut. Prevention of outbreaks can only be assured when a large proportion of the non-immune population subject to exposure has been properly immunized. It is the obvious duty of the health department to offer this mass immunization to the community and thus secure practically complete immunity from invasion.

It must be generally conceded as a fundamental principle that the health department should do as little clinical work as possible, compatible with protection of the general health of the community. Whenever mass immunization will prevent outbreaks of disease, however, the health department is under obligation to carry out immunization at public cost by the most effective and least expensive means. Since the health department is supported by taxation it cannot discriminate between those who can afford to pay for this service and those who cannot. The department should urge that individuals go to their own private physicians, and should furnish biological products to the doctors. But any citizen who brings his child to the health department to be immunized against smallpox, diphtheria or typhoid fever should be given this service free of charge. Experience has shown repeatedly that mass immunization procedures do not rob the physician of his legitimate practice, but rather increase his office visits for the specific procedure five to ten fold.

The daily work of the physician covers a scope of activities which are related directly or indirectly to almost every part of the health department program. The health department makes many requests of the physicians. These requests are not unreasonable. They represent obligations which the physician assumes when he enters medical practice, and which should be performed as a public duty. The health department makes a fair exchange. It has much to offer to the physicians, so that the final arrangement is one of mutual assistance and mutual advantage.

The physician who resents the effort to prevent disease, who prefers to cure—for a fee—rather than prevent, has entered the wrong profession. The public should know by our attitude and by our conduct that we appreciate public health and that we cheerfully give to preventive medicine its proper place in the sun. At no time in the history of the world has the lay public been more health conscious than at present. The medi-

cal profession has never before had such an opportunity, such a demand for its services, nor has there been such danger of a breakdown of the sacred relation between doctor and patient.

In the interest of the people and for the good of all concerned, there needs to be a more thorough application of preventive and curative medicine and a better understanding of medical values on the part of the public. The job is big enough for both public health officer and practitioner. One without the other cannot cope with the situation. The attack in Washington, D. C., on the sacred relation between the patient and the medical profession, the attack on the confidence the public has had in the profession, makes it imperative for the practitioner and the public health service to join hands in brotherly cooperation, if the public is to continue to enjoy the medical benefits accumulated by the profession through the years, benefits that cannot be bought with mere money.

Visit your local health department rooms. Talk to your director and his assistants. Encourage them in their efforts. Commend them when you can. Give friendly and constructive advice to them. Show them that you want to help, not hit. Try these things a time or two and you will find that you will get better service, that they will be better health officers.

Study the problems that your health department is working on. You will find a well-thought-out, an intelligently ordered, and a well-organized plan. Study to make this plan fit into your scheme of private practice. Study to help, not hinder. If you have not tried this, you will be pleasantly surprised to find that your goals are much the same. You will find that you can be of a worthwhile service to the department, and you will also find that the department will be worth much to you.

Essentially we are all in public health work. We may not be on the Board of Health pay roll, but we are all dispensers of preventive medicine—or should be.

DISCUSSION

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Doctor Hackler in his paper has very ably given us a history of the development of the Public Health Department and shown how closely related is the department and the practicing physician.

I have had the opportunity of watching a full time health unit in operation the past four years, and, as Dr. Hackler has stated, public health in our complicated life today requires special training and experience. Thus it is no longer possible for public health

work to be carried on by the practicing physician.

We in the state of Oklahoma are very fortunate in having an active and well organized health department, with numerous full time units over our state carrying on health education, urging prenatal care, regular health examinations, hygiene, venereal disease control and in many communities vigorous immunization programs.

In the past and even at the present time there exists a misunderstanding between the public health department and the practicing physician. The basis for this misunderstanding is the immunization program carried out in our public schools by our health department. Personally I feel that we as practicing physicians have no fair complaint. If we would fulfill our obligation to our communities no child would ever reach school

age without having been immunized against diphtheria, pertussis, typhoid, and smallpox. We all ask, "Why doesn't the health department immunize only the indigent?" I feel Doctor Hackler has answered the question when he states that the department is supported by taxation and therefore can not discriminate. If we wish to consider this question from a monetary standpoint, I believe that I am safe in saying that the health department makes more people conscious of the necessity of immunization and therefore stimulates the demand for immunization from the private physician and the income therefrom exceeds the loss.

I have enjoyed Doctor Hackler's paper and hope that it will help to bring a better relationship between the practicing physician and our Public Health Department.

Hoarseness*

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Hoarseness, and its ramifications, constitute a very timely subject. We have the word of Chevalier Jackson, that the incidence of cancer is increasing, due in part to the lengthened span of life. Cancer of the larynx is also increasing; 1.92 percent of all malignancies are located in the larynx. In the single year of 1938, 1,340 persons died of cancer of the larynx.

Hoarseness is the earliest symptom of intrinsic carcinoma of the larynx, due to involvement of the vocal cords. Eighty-two percent of early cases of intrinsic carcinoma of the larynx, that is, lesions involving not more than the anterior two-thirds of one vocal cord, are curable. For this reason, any patient exhibiting hoarseness is entitled to a careful laryngeal examination. An off-hand diagnosis of acute or chronic laryngitis should never be made without exhausting the other possibilities. It might be a carcinoma.

The otolaryngologists are the only group of men capable of making accurate laryngeal examinations. There may be individual exceptions, but the otolaryngologists are the only group capable, first, of visualizing a larynx, which is oftentimes difficult; and second, of judging whether a larynx so visualized is normal or pathological.

The Medical Profession has been so rigorously drilled, in the consequences and

dangers of missing a diphtheria, that most of us culture everything remotely resembling the disease. For this very reason, no doubt, we see very few deaths from diphtheria. On the other hand, a considerable number of people die each year of epidermoid carcinoma of the larynx; and yet epidermoid carcinoma of the larynx is a clinical entity to which the general man pays very little attention, probably because he never sees the primary lesion. The fact remains that a high percentage of these cases are curable, and it is our duty to enlist the cooperation of the general practitioner, in making an early diagnosis. If we can get him to refer his cases of hoarseness early, malignant lesions of the larynx can be picked up while they are still operable, and the proper surgical treatment instituted. A good rule for the general man to follow is that any case of unexplained hoarseness, persisting for two weeks, is entitled to a careful laryngeal examination.

Hoarseness, of course, is not a disease, it is a symptom; but it is a symptom that always calls for prompt investigation. The two types of acute hoarseness that call most urgently for prompt diagnosis, are laryngeal diphtheria and edema of the larynx. Of both of these, the profession is acutely aware, and I think no more need be said.

It is in the case of chronic hoarseness that we are apt to be negligent; and it is in such cases that the patient is prone to defer medical consultation until a carcinoma has become inoperable, or the cartilages and tissues

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of the larynx have been extensively damaged by syphilis or tuberculosis. In addition to the triad of syphilis, tuberculosis and carcinoma, the causes of chronic hoarseness are numerous. To mention only a few there are: goiter, aneurysm, trauma, laryngeal polyps, papilloma, vocal nodules, pericardial effusion, vocal abuse, angio-neurotic edema, the various manifestations of hysteria; and a host of others. However, it is a pretty good axiom to consider any case of chronic hoarseness to be syphilis, tuberculosis, or carcinoma, until proven otherwise.

Laryngeal syphilis may occur at any age, due to the fact that it may be either congenital or acquired. In syphilis, the individual is not, as a rule, emaciated, and the larynx is usually congested, and not pale, as in tuberculosis. If the disease is primary in the larynx, the chancre is usually on the epiglottis. In the secondary stage, it often resembles catarrhal laryngitis. Mucous patches may be present. Pain is not usually complained of, and cough, as a rule, is absent. Hoarseness may be the chief and only symptom.

In the tertiary stage, a diagnosis can sometimes be made from inspection. The disease is more prone to attack the anterior part of the larynx. The affected mucosa has a hyperemic appearance. Infiltration, when produced by a gumma, is usually single, and when this breaks down, the resulting ulcer has a typical punched out appearance with a dirty grey base. The glands of the neck are rarely enlarged. A positive Wasserman is of great assistance in making a diagnosis; but in tertiary lesions, a negative result may be obtained. In the differential diagnosis, a chest and sputum examination, a record of evening temperature, a history of weight loss, and a biopsy are valuable aids. The treatment, of course, is anti-luetic therapy to suit the individual case. In early cases, the prognosis is good. In advanced cases, there may scarring and stenosis of sufficient degree to produce permanent hoarseness and dyspnea on exertion.

In tuberculosis, the patient, as a rule, is pale and has the appearance of a tubercular patient. Generally speaking, laryngeal tuberculosis might be classified as a disease of the young; the greatest incidence being between the ages of 18 and 35 years. Of course, tubercular laryngitis may coexist with either syphilis or carcinoma. We must also remember that no individual is too young to develop a carcinoma, or too old to develop tuberculosis.

Doctor George E. Wilson of Saranac Lake, N. Y., tells us that tuberculosis of the larynx is a vanishing disease. The main factor in the decreased incidence is the extensively

increasing use of collapse therapy. Laryngeal lesions seldom occur after such treatment is instituted.

It is generally conceded that laryngeal tuberculosis is nearly always secondary to a pulmonary lesion. While a primary lesion in the larynx is theoretically possible, it is a rare entity if it ever occurs.

The inter-arytenoid space and the arytenoids are usually the first point of involvement. With a multiplicity of variations, we usually wind up with Jackson's sequence of hyperemia, infiltration, edema, erosion, and ulceration. In intrinsic lesions, voice changes, ranging from huskiness to complete aphonia are the rule. In extrinsic lesions, pain on swallowing is the most distressing symptom. By intrinsic lesions, are meant those involving the posterior commissure, the vocal cords, the ventricular bands, and the ventricles. Extrinsic lesions are those involving the epiglottis, the aryepiglottic folds and the arytenoids. Intrinsic lesions offer a favorable prognosis; extrinsic lesions do not.

The treatment involves attention to the pulmonary lesion and the general condition of the patient. Locally, it consists of voice rest, actual and chemical cautery, argyrol, chalmogra oil, etc., sedatives for relief of pain, and occasionally injection or section of the superior laryngeal nerve. Improvement in the larynx often follows, but does not as a rule precede improvement of the pulmonary lesion.

Cancer of the larynx is unique, in that the disease may be manifested in two forms; one is very amenable to treatment, while the other in a high percentage of cases, is hopeless. The difference is based not on histological variation, but on location of point of origin. Intrinsic lesions, or cancer arising on the interior of the voice box, are slow in evolution, and invade the glands of the neck only at an advanced stage. The symptom of hoarseness appears early, announcing the presence of the lesion. Surgery, while the lesion remains localized is highly successful in producing a permanent cure.

The other form is extrinsic cancer of the larynx, and includes those lesions involving the margins and outer surfaces of the voice box. Because of their location, these lesions would be better classified as malignancies of the hypopharynx. Their first symptom is pain on swallowing. They are insidiously rapid in their spread to the lymphatics, and are usually inoperable by the time they are diagnosed.

In cancer of the larynx, male patients preponderate in the ratio of ten to one. However, there is one point where the female is attacked more frequently than the male, and this is on the posterior surface of the cricoid

cartilage. For some reason, retro-laryngeal cancer is feminine in the ratio of seven to one. Cancer of the larynx usually appears in males past the age of 40 years. Retro-laryngeal lesions are frequently seen in the female ten years earlier.

The most common location of intrinsic carcinoma of the larynx is the anterior portion of the true vocal cord. The glands of the neck are not involved in the early stage. The pathological area may appear as a projecting, papilloma-like growth, or as a limited or deep infiltration which later may ulcerate or fungate. Hoarseness is the chief symptom. Pain and difficulty in swallowing do not usually appear as long as the lesion is intrinsic.

Any one sided affection of the vocal cord of a man of middle age or over, should arouse suspicion of a malignancy. If investigation rules out syphilis and tuberculosis, a biopsy is definitely indicated.

The treatment of choice is surgical. If only one cord is involved, laryngofissure will usually suffice. If portions of both cords in the anterior commissure are involved, partial laryngectomy is indicated. If the mobility

of the cord is affected, if the lesion has extended to the anterior surface of the arytenoid, or if the ventricular band is involved, complete laryngectomy is indicated.

In extrinsic lesions, those involving the arytenoids, the epiglottis, the aryepiglottic folds and the pyriform sinus, surgery holds out little hope of relief. Here irradiation may be used to ease the pain, but the prognosis is uniformly bad.

These remarks on hoarseness are sketchy in the extreme, and do not pretend to cover the subject. Their sole purpose is to call attention:

First, to the fact that carcinoma of the larynx is increasing;

Second, that 82 percent of early intrinsic cases are curable;

Third, that hoarseness in an adult calls for immediate laryngeal examination; it might be a carcinoma.

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Corneal Injuries and Complications*

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Since various corneal injuries of all kinds are seen daily in our offices, I think a discussion of corneal injuries and complications of major importance. It is my opinion that the prevention of infection could be the cure of at least 75 percent or more of corneal complications. Two major factors in accomplishing this end are, first, proper removal of all foreign bodies and, second, the treatment of any chronic infections of the lids and lacrimal sac.

In all injuries my first step in examination is instillation of one-half percent pontocaine for anesthesia to aid in easing the patient as well as to aid in thorough examination. I seldom use cocaine since the patient will almost always as a rule complain of the resulting dilated pupil and, secondly, because in many instances it may prevent healing of the cornea, especially in extensive corneal erosion. In simple surface corneal erosion, the diagnosis is made simple by the

instillation of fluorescein stain, which will very definitely outline the extent of injury. This type of injury should completely heal in 24 to 48 hours by simply keeping the eye clean, lubricated, and a loose dressing applied.

Non-perforating injuries extending to the posterior lamina of the cornea present a graver problem and prognosis must be more reserved. Treatment is similar to simple erosions, except that more care must be exercised in prevention of infection and in alleviating pain. Complications arise many times however, from using too many medicines and so irritating the eyes and prevent healing, than from not using enough medication. In these cases especially, no cocaine should be used, as cocaine definitely prevents healing even though it does relieve pain; hence other products should be used for relief of pain. Usually Pontocaine or Holocaine preparations or similar preparations, work satisfactorily, however, they should be used with caution.

Perforating wounds must be handled with

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extreme care and judgment and according to the type of injury. Clean cut perforations may often heal spontaneously without surgical intervention. Sometimes in a gaping wound a corneal suture may be necessary. In all perforating wounds thorough examination should be made for the possibility of a foreign body being lodged within the eyeball and if so should be removed in almost all cases. Cleanliness and symptomatic treatment should be carefully instituted, beginning signs of complications closely watched and controlled if possible. In severe damage to the eye, where useful vision has been destroyed, surgical removal is indicated for future prevention of sympathetic ophthalmia. In all major injuries to the eye one should be on guard against possible sympathetic ophthalmitis.

Contusions of the cornea are diagnosed by the porcelain-like opacity within the cornea. These may be followed with severe intra-ocular complications. I should like to use the following case history to illustrate.

Male, age 39, while breaking rock got hit directly on the eye by a flying fragment. This was followed by instant severe pain which seemed to clear up in about 30 minutes. Forty-eight hours later, beginning dimness of vision and quite severe pain brought him to my office. Incidentally, this patient was completely blind in his other eye from a previous injury. Examination showed a corneal contusion about six millimeters in diameter, almost directly over the pupil, with a marked irido-cyclitis. The pupil dilated only partially and with extreme difficulty by atropine instillation. Within 24 hours this no longer had any effect and subconjunctival injection was instituted every 24 to 48 hours, with only partial effect. The cornea was also ulcerated over the contusion. Foreign protein injections were used and symptomatic treatment continued along with subconjunctival injection of atropine, cocaine and adrenalin. During a period of three weeks the infection finally subsided with a large remaining corneal scar over the pupil and vision of 20/300. An iridectomy was performed with resulting vision of 20/30 with correcting lens.

Chemical burns consist mainly of acid or alkali and should be copiously irrigated and followed by neutralizing agents. If acid in

nature, using three percent sodium Bicarbonate solution, and if alkali, using one percent acetic acid. Lime burns may be neutralized by five to ten percent ammonium tartrate solution. Fluorescein again should be used to determine the extent of the burn and treatment instituted for control of pain and prevention of infection. The eye should be kept well lubricated and watched closely for possible symblepharon, which should be broken up as they form. Flash burns from arc lights, etc. usually respond to ice packs, lubrication and analgesic salve.

Foreign bodies are most easily found with a loup and indirect light through a magnifying lens. Fluorescein often aids in locating the foreign body. Some type of a rather blunt eye spud should be used for removing the foreign bodies. In deep seated foreign bodies a rust stain often remains after the foreign body is removed. The rust stain or discoloration should also be removed with some type of burr. Following the proper removal of the foreign body, the eye should be well irrigated with boric acid or similar solution and medication instilled. As a rule a loose bandage should be applied for a few hours, although this is not always necessary. The patient should always be warned to return to the office the following day if any discomfort remains in the eye. One or two check-up calls often save days of grief. The various degrees of toxicity of foreign bodies should also be borne in mind.

Complications of corneal injuries are many and various. Ulcers are probably the most common and should be closely watched for. Determine the type of ulcer and begin immediate treatment. If the ulcer is more central in position, atropine is usually indicated and in marginal ulcers, eserine may be used, alternated with atropine. Atropine should be used with caution in older patients and the ocular tension closely observed for beginning glaucoma. Sensitivity to atropine is also a factor to be remembered in its use. Irido-cyclitis must also be guarded against. Panophthalmitis, sympathetic ophthalmia, scarring and symblepharon should also be kept in mind. Astigmatism may develop in complicated cases.

In closing, let me again repeat that the most important step in treatment of corneal infections is their prevention.

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Psychosomatic Medicine*

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A woman in her fifties recently came to a local hospital complaining of pain in her back, generalized weakness, vomiting attacks and rather extensive gastro-intestinal distress. She brought with her voluminous reports from several good medical clinics indicating that there were no demonstrable organic changes. Intracranial, spinal fluid, blood, urine, gastro-intestinal x-ray, stomach content and fecal examinations of an exhaustive character revealed no pathology. There were references to a neurotic disturbance and to psycho-therapy but nothing specific.

When seen she appeared rather lackadaisical but she was responsive and the following story was easily elicited. All members of the family were known as being nervous but there were no nervous breakdowns, and longevity was the rule. There were numerous siblings, the patient being the third and one of twins. Her twin was a brother and preferred by her parents, both of whom were cold and undemonstrative, though conscientious and loyal. There was considerable bickering among the children, but the patient always stood out as one who never fought back, and who suffered in silence.

She could not stand cats and dogs in her room, as a child, and responded to their presence with vomiting, which subsided as soon as the animals were removed from her room. Contacts with other animals were also likely to induce vomiting. Her personality gradually became fixed into a pattern which was characterized by extreme conscientiousness, meticulousness as a housekeeper, over-solicitousness in her attitude toward younger children, and shyness and self-consciousness in groups of people, particularly with strangers. She avoided large crowds but was reasonably companionable with those she knew well. She had two or three lovers in her late adolescence, without sexual activity, and out of several possibilities finally selected for her husband a man who had already shown some propensity toward alcoholism. The marriage was not happy

from the start. The husband became increasingly alcoholic and subsequently had two or three affairs, about which the patient learned but tolerated because she did not believe in divorce.

During her married life there were rather frequent illnesses, and they were usually unduly prolonged although she managed to keep a neat house. At 35 there was an operation for the removal of the right tube and ovary and the appendix, because she had had intermittent pain every two or three months in the right side over a period of two or three years. After the operation the attacks of pain subsided gradually, rather than suddenly. About three years later there was a similar disturbance in the left side, but when a surgeon suggested that she have her left ovary and tube removed she bought some patent medicine and cured herself, apparently as a revenge reaction. She did this in spite of the fact that she had always had a phobia for medicine and had always had considerable stomach disturbance, including vomiting, following the ingestion of any medication, even aspirin.

Eight years ago her husband was killed in an automobile accident. Because of her unhappiness with him she felt a reluctant relief at his death. She went to live with her aged parents. Soon thereafter her father fell ill and was a chronic invalid for the remaining two years of his life. Shortly after his death her mother broke her hip and the patient had the exclusive care of both parents during their chronic invalidism until her mother's death a year ago. At this time she had become interested in a man several years older, and two months later she married him, feeling that she was very lucky to get him. However, it was not long before her present illness began. She soon had an accentuation of her life long difficulty in sleeping, and there ensued increasing gastro-intestinal disturbances, with vomiting attacks together with weakness and fatigue. She became convinced that she was suffering from cancer and exhaustive examinations with negative findings had not influenced her opinion in the least.

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In general one felt that the patient had strong tendencies toward self punishment, dating from early childhood, which were gratified in turn by her unhappy marriage and her drudgery for her aged parents. Although she always showed some invalid tendencies her first sustained breakdown occurred after what she herself considered a happy marriage late in life.

The point of view recently stressed by "psychosomatic medicine" would cite this case as an example of the injustice done unwittingly by over-stressing somatic aspects of sickness, and ignoring powerful emotional factors, which have resulted in a good deal of distress and unhappiness in this patient's life. She herself stated that no doctor had ever taken an interest in her personal life before.

Markedly inhibited and subject to fears from an early age, she never had an adequate outlet for her emotions. Recent investigations have shown that such a situation lends itself frequently to a short circuiting of the inhibited energies into disturbed functions of various bodily organs. In this patient's case the gastro-intestinal functions were disturbed at least from the time when she reacted with vomiting to contacts with animals as a child. Subsequently, increasing tensions led to periodic pains of gastro-intestinal origin and the reaction of vomiting to taking drugs by mouth. The possibility that her life long unhappiness might account for some of her symptoms was completely ignored, however, and the various physical procedures could only serve to intensify her suffering. The futile, if not harmful surgery, in which a tube, an ovary and the appendix were removed could have been avoided if her emotional problems had been understood. The fact that she took patent medicine, in spite of her aversion to all medicine, and cured herself the second time surgery was suggested, points to the probability that she herself recognized the futility of the first operation. The emphasis on somatic investigation throughout her lifelong semi-invalidism served only to make her progressively worse, and to make the alleviation of her obvious psychological difficulties increasingly difficult and, at her present age, well nigh impossible. In fact, according to recent investigations, it made it almost inevitable that she would actually develop an organic disease sooner or later, which would bring a dubious reward to the ardent searchers for somatic pathology.

The basis for the above comments comes from relatively recent attempts to discard the old concept of a dichotomy of body and mind in favor of a consideration of the per-

son as a whole in all disease processes. The term "psychosomatic medicine" represents an attempt to reflect this concept in one term and implies that both psychic and somatic factors are considered of equal importance. As time has gone on there has been an increasing tendency to discard the traditional notion that all disease is due to pathological tissue changes which can be traced to mechanical, chemical or infectious factors or to the natural aging process. Rather there has been a tendency to regard pathological anatomical changes as the secondary results of disturbed functions which often, at least, are the results of chronic emotional conflicts. Some writers assert that all organic disease may well represent the end stage of lifelong emotional maladjustment. It first manifests itself in hypo or hyper function, hypo or hyper secretion, or changes in physiological function which gradually become fixed in the organic structure, and ultimately evolve into the manifestations of what we term as organic disease.

Or in Jelliffe's vivid language, "Organic disturbances very frequently begin silently or subtly as neurotic disturbances. While in the neurotic stage of maladjustment (organic neuroses) the somatic processes are still reversible, hysterical conversion for instance, which behind a great multiplicity of forms involve the skin, mucous membrane, stomach (so-called dyspepsia) bladder, bowel (constipation) etc. After a certain number of years of such faulty adaptations (classically at about 40) the processes become irreversible. The leaning tower of Pisa has leaned too far and then organic disease has begun. It may be too late. Behavior pattern has eaten its way into anatomical pattern and will not be recalled."¹

In general psychosomatic medicine teaches that no individual can safely be looked upon merely as a case of appendicitis, carcinoma, brain tumor, cardiac disease, etc. Rather he must be considered as a human being with powerful emotional cravings which must be expressed in some way, and may be expressed in ways conducive to his comfort, or in ways which at first may manifest themselves merely as unhappiness, still later in neuroses with somatic discomfort, and ultimately in organic disease. A doctor is no more justified in overlooking his patient's environmental reactions and inner life problems than he is in overlooking organic disease. The penalty for such neglect is needless suffering by the patient and failure to interrupt the development of disease in the early

(1) S. E. Jelliffe, M.D. The Bodily Organs and Psychopathology. American Journal of Psychiatry, Vol. 92, No. 5, March, 1936.

stages when it can be treated more successfully than it can after the disease process has become fixed.

The sources of the emotional conflicts under discussion have come to be regarded as lying in early childhood experiences. Most of the published work has been the result of studies made on older children or adults. One noteworthy exception is the work of Margaretta Ribble. She recently reported some experiences with infants showing a direct correlation between so-called physical disorders with the way the babies were treated by their mothers. She feels that babies who are cuddled, rocked, handled in various ways, and allowed more sucking pleasures than many babies are, by a devoted mother, are less subject to disease than those who are treated in a less emotional manner. She goes so far as to deprecate the practice of obstetricians and pediatricians of isolating new born infants for the habitual two weeks hospital period. She has evidence that seems to show that close association of mother and infant, particularly in the early weeks of the infants life, is essential for its subsequent health and happiness.² Since most of her work has only been read before a group and has still to be published, I will not venture to describe it further.

Other reports will be reviewed briefly in the following: Skin conditions such as eczema and psoriasis and acne have been found to be associated with self punishment and aggressive tendencies. Unconscious, and therefore suppressed, fear and rage have been found in studied cases to be responsible for so-called essential hypertension and to be prominent in actual cardio-vascular disease. Upper respiratory disorders seem to be accompanied by conflicts between sexual wishes and a need for dependence. Upper gastrointestinal diseases have been found to be associated with strong desires to be loved, which were not gratified in early infancy, and were therefore suppressed, with resulting tensions in these organs which ultimately seem to become translated into organic disease. Other specific diseases studied more or less intensively include ulcerative colitis, vertebral neuroses, allergy, hay fever, asthma, arthritis, and obesity. There is time here, however, for detailed consideration of only a few of these conditions.

At the Chicago Institute for Psychoanalysis, headed by Alexander, it was found that in cases where symptoms were primarily gastric there was a strong desire to be loved and that this desire to be loved followed an infantile pattern of acquisition. There was however a reaction against these cravings

which produced a personality which seemed to stand as independent. Patients were on the surface aggressive and fearless and they frequently were liberal givers to a marked degree. Underneath, however, they displayed an extreme craving to be taken care of, protected, loved, mothered, etc., and this craving was expressed by the stomach in a hyperfunction or state of constant hunger which gave marked discomfort. Alexander has described the situation vividly, and I should like to quote him in detail. "The infantile wish to receive, to be taken care of, to be loved, to depend upon someone else, is most ideally gratified in the parasitic situation of the suckling infant. Thus these emotional qualities of receptivity, the wish to be loved and taken care of, become closely associated in an early period of life with the physiologic functions of nutrition. Being fed thus becomes the primordial symbol of being loved."

If the intense wish to receive, to be loved, to depend upon others, is rejected by the adult ego and consequently cannot find gratification in normal life relations, then only the regressive pathway remains open; the wish to be loved becomes converted into the wish to be fed. The repressed longing to receive love and help mobilize the innervations of the stomach which are since the beginning of extrauterine life closely associated with the most primordial form of receiving something, namely with the process of receiving food. These innervations serve as a chronic stimulus of the stomach functions and lead to its dysfunction since this stimulus of the stomach is independent of the normal organically conditioned stimulus, namely the need of food; this stimulus has its origin in emotional conflicts entirely independent of the physiologic state of hunger. Those individuals who on account of the described conflict situation have to repress and abnegate their overstrong receptive cravings express them in the tacit physiologic language of the stomach functions. Such a stomach behaves all the time as if it were taking or were about to take in food. The greater the rejection of every receptive gratifications in life, the greater will be this unconscious wish (we may now justifiably call it hunger) for receiving love and help. They want food not because of organic hunger but as a symbol of love and help.

My present notion is that the stomach under this permanent chronic stimulation behaves constantly as it does during digestion.

(2) Read at annual meeting of The American Psychiatric Association at Richmond, Virginia, May 6, 1941.

A chronic hyper motility and hypersecretion may be the consequence. The empty stomach is thus constantly exposed to the same physiological stimuli to which, under normal conditions, it is exposed only periodically when it contains or is about to receive food. The symptoms of nervous stomach, epigastric distress, heart burn and belching probably are the manifestations of this chronic stimulation which sometimes even may lead to ulcer formation."³

Bruch and Touraine⁴ have written of an interesting study of 40 families in which there were obese children. Although the economic level of the families was marginal the home conditions were surprisingly good. A disproportionate amount of money was spent on food. The fathers were usually weak and unaggressive and with little ambition. The mothers had usually suffered from great poverty and insecurity in childhood and been thrown on their own resources early in life. Their reaction to this was one of self pity and resentment. They were domineering and quarrelled openly with their husbands. The families were usually small and 70 percent of these obese children were either only children or the youngest in the family. There were numerous abortions and most of the obese children were admittedly unwanted. There was a marked ambivalence on the part of the mother in her attitude toward the child. Her fundamental rejection was overcompensated by overprotection and excessive feeding. Hostility was expressed by unreasonable and cruel discipline. In general the home environment offered inadequate emotional security and food was given exaggerated importance. The latter was a substitute for love, security and satisfaction. Muscular activity and social contacts were associated, in the mind of the children, with danger and insecurity. Thus there was overindulgence in food and avoidance of muscular activity. The authors conclude that in their cases obesity seemed to be due only in part to a disturbance in the weight regulating mechanism; there was also definitely poor social adjustment and delayed emotional maturation which seemed to play important roles in the production of obesity.

Much has been written about the emotional factors in essential hypertension and cardiovascular disorders. It is well known that fear and rage are accompanied by vascular disturbances such as transient tachycardia and hypertension. More or less unconscious

fear and rage and therefore repressed or inadequately expressed emotion of this character have been found repeatedly to be associated with essential hypertension and cardio-vascular disorders. Numerous cases have been reported in which these emotional conflicts have been present, and marked alleviation and even cures have been accomplished by attacking the problem from the psychological point of view. Some writers believe that psychological assistance is more effective than medication in many of these disorders.

A brief presentation such as this cannot pretend to be comprehensive. It merely presents a point of view which seems to be finding an increasingly wide acceptance. As contributions to the subject increase, our knowledge should become sounder and less controversial than it admittedly is at the present time. Progress has been definitely more encouraging since the establishment two years ago of the periodical "Psychosomatic Medicine," which has not only encouraged the publication of detailed observations itself, but has aroused more interest in the subject by other medical publications and led to publication of similar papers in them.

To You, Doctors!

The Bakers of ButterKrust Bread salute the medical profession for its contributions to national defense. Greater physical and mental fitness inevitably promotes higher national efficiency.

ButterKrust
VITA-B

The Delicious **WHITE** Bread

(3) Franz Alexander. The Influence of Psychologic Factors Upon Gastro-Intestinal Disturbances: A Symposium. Psychoanalytic Quarterly Vol. 3, 1934. Pp. 501-539.

(4) Hilda Bruch and Grace Touraine. The Family Frame of Obese Children: Psychosomatic Medicine Vol. 11, No. 2, April 1940.

• *THE PRESIDENT'S PAGE* •

The season has arrived when the return to the little, old, red school house is the order of the day. This brings back to the mind of the writer a subject that has been the source of much thought. There has been a time in the not far distant past when it was difficult, if not practically impossible, for a doctor in practice in the smaller communities to keep informed of the advances made in our profession. The medical literature available was more or less unreliable, the opportunity to meet and rub shoulders with men who had the ability and disposition to impart the knowledge they had acquired as a result of better opportunities that are presented in the larger centers, the practice of postgraduate study was prohibited to many men from an economic standpoint. There was no opportunity offered except to leave their practices for an extended period, travel long distances, being faced with expenses that they could ill-afford.

At the present time these conditions have undergone great changes. There is no member of our profession in this state, and in many other states, who cannot attend once a year a refresher course in some of the branches of medicine with very little sacrifice of time and at a trivial expense.

If organized medicine had done nothing else for their members than to provide the postgraduate courses that have been and are being given, this would much more than justify our organization.

There should be some provision that a mere license to practice medicine should not secure the holder the right to practice that profession unless he further justifies that privilege by spending a certain number of hours each year in the study of subjects that would keep him up to the minute in his profession.

A handwritten signature in cursive script, reading "Finis B. Blevins". The signature is written in dark ink and is positioned above the printed name "President.".

President.

EDITORIALS

YOU CAN'T TAKE IT WITH YOU

The Oklahoma State Medical Association should have a library upon which the doctors of the State could depend for current and historical data on any subject directly or indirectly related to medicine. Such a library could serve the medical profession in many ways. A postal extension or lending service would encourage more general reading, also the acquisition of knowledge on specific problems arising in daily practice. Doctors who are writing papers or books, or seeking knowledge on special subjects could use the library for research, references, and so forth.

Doctors cannot come into their true heritage until they do more reading and writing. Is there a doctor in the State of Oklahoma who has had the good fortune, through oil or other unusual sources of revenue, to acquire surplus funds which might be employed in the building of a lasting monument which would serve as a perpetual fountain of knowledge? If you have a little "velvet," why not commit it to the task of bringing to the less fortunate members of the profession the priceless treasures of the printing press already resting between calf and cloth. If you have a wealthy patient who would like to perpetuate the purchasing power of his dollars, talk to him about establishing or endowing a library for the State Medical Association. There is no better way to assure a lasting benefaction to the medical profession and to the people of the State.

Doctors cannot afford to rest smugly in "unread innocence." Though medical knowledge has grown beyond one man's comprehension, it is much better to occupy the position of "well-read ignorance." In time a well used medical library would help lift the bushel and let our light shine abroad. Every member of the State Medical Association should keep this in mind, in case opportunity should knock. Wealth in Oklahoma is going to waste. Many people who know how to make money do not know how to leave it. In time, all realize they must go empty-handed, and some who know they cannot take it with them, may be glad to have advice. Donations and bequests could be handled by a committee or board chosen by the Council of the State Medical Association. It should be noted that such donations are deductible from the income tax report.—L. J.M.

THE CLINICAL MEETING

The service that is being rendered to the Medical Profession by the Oklahoma City Clinical Society in presenting their program each year may not be appreciated by the profession of the State.

There are very few localities that give such an extensive and comprehensive program, exhibiting the leading national and international authorities who present the best solution of our every day problems.

We should all, as far as possible, take advantage of this opportunity given us by the Oklahoma City Profession. Remember, your registration fee does not meet the expense of this wonderful meeting, as our City colleagues are obliged to "kick in" liberally to make such a feast of medical wisdom possible.

This short editorial is not an advertisement of the meeting, but an appreciation of this effort on the part of the Oklahoma City Clinical Society, and bidding you all to be there, and as a consequence, be better physicians.—L. S. W.

"TO HELL WITH MELANCHOLIA"

This striking statement is reported as representing Queen Elizabeth's last words. Those who are familiar with her life and character must readily recognize its plausibility. Let us hope her attending physician was present. Such an emphatic dismissal of mental depression should fall as sweet music upon any doctor's ears.

To have a patient capable of thus delivering himself of life's most pernicious affliction is something to be thankful for. But it must be admitted that pulling a despondent patient out of his hole is an exhilarating intellectual pursuit, and one for which every doctor should be prepared. To have a patient who never reaches this debasing depth, or who lifts himself out by his own bootstraps, is nothing short of sheer good luck.

The following from William J. Hutchins should be indelibly fixed in the mind of every practicing physician: "We must minister to minds diseased, to wills shell-shocked in the warfare of life. One man cherishes a Jehovah complex, like a cockerel on his dunghill imagines that his crowing wakes the sun to run its daily race. Another with an inferiority complex hides in the trenches, in life's dark corners, like one born scared. We must seek to clarify minds, so that they shall see life steadily, and see it whole; we must seek

to strengthen wills to endurance and adventure."

With few exceptions, the treatment of disease would be easy if it were not for the patient. We must never forget we are dealing with the human organism as a composite whole, a plain human being with a possible personality range from the cock "on his dunghill" to the one of little self-esteem, floundering in the "slough of despond."

To determine what is normal and what is abnormal behavior in a given patient is often a difficult task, but to do this, and to help resolve his psychological conflicts may be more important than the immediate discovery of his somatic changes, his nutritional deficiencies or vitamin needs.

Though there is a wide chasm between our fairly definite knowledge of the body and the invisible, inapprehensible something we call the mind, and while to us the mind is wholly intangible, to itself it is a delicate, sensitive reality which we must approach with uncovered heads and the exercise of the greatest possible wisdom.

As a rule, it is best to tell the patient the plain truth. Deception is dangerous, discovery is almost certain, and loss of faith is fatal. The true story in language the patient can understand is often a source of great comfort. Seldom is the patient's condition so serious as to preclude a ray of hope. Here again good judgment is essential. Often truth should be given in graduated doses, never exceeding psychological tolerance.

In the past fifty years, medical science has made rapid strides, but since the time of Hippocrates, there has never been a period when science in cold calculation has so readily discarded the art of medicine. It is equally doubtful that the afflicted, though blessed with the gift of science, has ever been so in need of a discerning, intimate, medical adviser.

When face to face with serious life hazards, almost without exception, patients suffer from a sense of insufficiency and the need for faith in something outside themselves. Ibsen had this in mind when one of his characters is represented as saying: "Without a fixed point outside myself, I cannot exist." In this day when we are taught that science and reason takes the place of God, this is an interesting observation. Every doctor should read Henry C. Link's "The Return to Religion." Recognition of the patient's spiritual needs, with the Bible as a text, will save many a groping soul from the ultimate disaster of Christian Science, with only Mother Eddy's hodgepodge for guidance. Finally, the doctor should strive to help every patient to learn, with Carlyle, that the duty of being brave is an everlasting duty.—L. J. M.

FRACTURES IN THE AGED

So many times the family physician, when called to see an aged patient with a broken bone, feels that as the patient may not have long to live, he should make no effort at reduction and proper treatment, and he tells the relatives that palliative measures only are indicated.

It is, of course, necessary first to evaluate the patient's general condition, and there are but few contra-indications to reduction and immobilization, three being advanced involvement of vital functions, malignancy, and certain psychotic phases.

The immediate condition of the patient must also be evaluated and measures instituted to combat shock and pain and the treatment of any co-existing injuries.

Positive treatment of the fracture must be instituted as early as possible so that change of position for the patient can be practiced which will minimize complications.

In the treatment, casts are to be definitely avoided, and internal fixation used especially in fractures about the thigh and hip joint. Many of these procedures can be carried out under local anesthetic and there is very little shock or loss of blood.

For these patients to be able to sit up in bed within 24 or 48 hours after fixation of the fracture and to be out in a wheel chair within a week, reduces morbidity and mortality as well as long hospitalization and professional nursing care.

Give the old folks with broken bones a chance. Don't throw them into the discards because they have passed the three score years and ten.—L.S.W.

TUBERCULOSIS MAKES HISTORY

At its best, history is fragmentary, and while the record of certain facts indicating the course of a period or an age may be fairly comprehensive, the true spirit of historical movements is often veiled in obscurity and difficult to capture. The following from a great historian, who had tuberculosis, serves as a striking example. After 20 years hard work on his monumental production, "*The Decline and Fall of the Roman Empire*," Edward Gibbon laments its imperfection and records his apologies before committing the last volume to his publishers.

Thousands of years before we knew about microscopes, culture media, test tubes and incubators, the tubercle bacillus was exhibiting all its treacherous tricks, and the evidence of our therapeutic inefficiency is found not only in published records of the past, but in the ancient cemeteries of vaunted health resorts, where the sad story arises with a mute eloquence to trouble our professional conscience.

Exhumed skeletons of prehistoric periods bear the marks of tuberculosis. Mummies found in Egyptian tombs show unmistakable signs of bone and joint tuberculosis. Beginning with the Code of Hammurabi, written more than 2,250 years B. C., evidence of its ravages appears on every page of recorded history. It is impossible to estimate the influence of tuberculosis on the ever ebbing tide of civilization, but any one who knows the history of this disease, with its fluctuating incidence and mortality rate, and its individual physical and psychological influence when it occurs in chronic form, cannot escape a consciousness of its conditioning effects in the realm of social, moral, economic, political and creative endeavor.

Allen K. Krause had this in mind when he said: "Some day a man will write a new kind of history. Its keynote will be the shaping of human destiny by disease, and, let us hope, the guidance of this destiny by virtue of the control of disease." (1)

Though this brief discussion deals with the history of medicine, we should like to supplement Dr. Krause's broad statement by offering a few examples to show the influence of tuberculosis in the world at large.

Suffice it to say that Cicero was threatened with consumption and was urged by his physicians to give up his constant declaiming in the Forum and was sent away for a period of two or three years.

Because of tuberculosis Cecil Rhodes went to Africa in search of health and discovered diamonds. To meet the needs of his environment he developed the art of statesmanship and commerce, and changed the course of an empire.

Tuberculosis caused Seneca to spend much time in his vineyards where "being, so to speak, let out to pasture" he found time and inspiration for the development of his wonderful philosophy and the recording of the same. He knew much about medicine and any modern doctor would profit by reading his "Epistulae Morales."

It was tuberculosis that sent Robert Louis Stevenson to the South Sea Islands, Shelley, Keats and Leigh Hunt to Italy, and many others on what seemed to be the *via dolorosa*, but ultimately, through the discipline of ill health, proved to be the way to a fuller life with unexpected rewards.

Forcibly dismissing this fascinating phase of our subject, we now turn to the influence of tuberculosis on the history of medicine. Time and space will not permit a detailed discussion. The following imposing list of doctors who suffered from tuberculosis and figured significantly in the history of medicine stands as an impressive example. With

few exceptions, a biographical study of each doctor named in this incomplete list will reveal surprising evidence of the influence of tuberculosis in his daily pursuits and his creative endeavors. Checking this list with Garrison's *History of Medicine* and other reliable sources would be a pleasurable and profitable pursuit. Such a study clearly shows that the history of medicine as we know it could not be written without taking into consideration the work of these men.

In confirmation of this we briefly consider the following: Galen lived in a period when the fundamental principles of Hippocratic medicine were decidedly on the wane. With his broad education and his insatiable desire for knowledge, he rediscovered and adopted these discarded principles and employed them as a background for his advanced thinking and his remarkable researches in anatomy and physiology. He has been called the father of experimental physiology. He collected and recorded, not only the Hippocratic teachings, but practically all existing medical knowledge. His writings comprised 70 books, 25 of which are extant. Osler said Galen so worked that 15 centuries stopped thinking. The renaissance in medicine would have been difficult and incomplete without Galen's contribution.

Laennec's remarkable career and his epochal contributions to medical knowledge are so well known we only need to say that he and his contemporaries named in this list completely changed the course of medical thought with revolutionary alterations in our anatomic, physiologic, diagnostic and therapeutic approach.

Louis made use of the facts Stark, Baillie, Bichat, Bayle and Laennec had brought to light and gave them added significance through his own investigations. He established the statistical method of investigation in medicine. Through his teachings and his pupils, he was largely responsible for the establishment of modern clinical medicine throughout the world. Among his American pupils were James Jackson, Jr., Oliver Wendell Holmes, George C. Shattuck, William Pepper, Bowditch, Gerhard, Stille, Power, Swett and Clark.

Francis Adams, the most profound classical scholar in England and Scotland, revived and perpetuated interest in Greek medicine through his numerous translations. We are indebted to him for the only complete English translation of Hippocrates.

These few incomplete citations serve to show what a wealth of information would result from a careful study of all those listed. Galen 130-200 A.D., Maimonides 1135-1204, Franciscus Sylvius 1614-1672, Thomas Willis 1621-1675, John Locke 1632-1704, William

Withering 1741-1799, William Stark 1741-1770, Maximilian Stoll 1742-1787, Benjamin Rush 1745-1813, John Morgan 1735-1789, Matthew Baillie 1761-1823, Bichat 1771-1802, Caspard Laurant Bayle 1774-1816, Laennec 1781-1826, Louis 1787-1872, John D. Godman 1794-1830, Francis Adams 1796-1861, Henry I. Bowditch 1808-1872, Peter Dettweiler 1837-1904, William Pepper 1843-1898, James A. Hart 1849-1925, Paul Ehrlich 1854-1915, Tchekhov 1860-1904, Lawrence F. Flick 1856-1934, Harry Lee Barnes 1877-1934, Wm. Duffield Robinson 1850-1931, Col. Geo. E. Bushnell 1853-1925, Lt. Col. Wm. Malloch Hart 1881-1923, Henry Sewall 1855-1923, Lawrason Brown 1871-1937, Herman M. Biggs 1859-1923, Vincent Y. Bowditch (?) 1929, Edward Livingston Trudeau 1847-1915.

Obviously the diagnosis may be justly questioned in some of those listed, but the rather convincing evidence has been gathered from many sources and gradually accumulated over a long period of time. When possible, the data referring to individual cases has been checked and rechecked and the present available knowledge seems to warrant their inclusion.—L.J.M.

(1) Allen K. Krause, *Tuberculosis and Public Health*, Amer. Rev. of Th., Sept., 1928.

THE SULFONAMIDES AND THE PATIENT

When cantankerous, iconoclastic Paracelsus (1493-1541), the father of chemotherapy, discarded medical traditions, burned his Galen and Avicenna, and said chemistry is not for the purpose of making gold as the alchemists thought, but for the preparation of medicine, he was blazing the trail for developments, which, if he could come back today would fill his heart with pride and make his eyes bulge with astonishment.

The chief object in this brief discussion is to call attention to the doctor's heavy responsibility in the use of modern chemotherapy. Referring particularly to the sulfonamide group, and recognizing the wonderful therapeutic possibilities inherent in sulfanilamide and its related compounds, we must not be unmindful of the possible dangers our patients are subjected to, especially if these preparations are administered without accurate diagnosis, adequate appraisal of the patient's condition, daily observation and laboratory follow-up. In these compounds we have a two-edged sword. Each thrust of the weapon is accompanied by possible hazards which cannot be disregarded. In the hands of careless, uninformed or overconfident doctors, the use of these compounds may do much harm. Our patient's welfare must be our chief concern and we must be ready to bring to the bedside every possible thera-

peutic advantage, but with unfailing vigilance we must protect our patients from the hazards of modern therapy.

With increasing knowledge in the field of medicine, doctors must ever live more dangerously and if they cherish the comforts of an easy conscience, they must work harder. In our enthusiasm over new remedies which, in the aggregate, are saving life and adding to the sum-total of human happiness, let us forever keep in mind the welfare of the individual patient in order that we may escape the avoidable sins of omission and commission.

The only known safeguard is knowledge. We should try to know what is going on in each case before we risk the responsibility of prescribing powerful remedies. This knowledge of diagnosis and clinical appraisal is dependent largely upon past training and experience. We must strive to keep up with the rapidly changing therapy and know the beneficial and harmful possibilities of the drugs we prescribe and how to anticipate and recognize their effects, good or evil, as they appear at the bedside and in the laboratory.

Considering any given new remedy, we should be in possession of the knowledge resulting from experimental and clinical testing, and follow the latest criteria with reference to indications, dosage, etc. Even though our knowledge of the sulfonamides is in a state of flux and new members of this group are being recommended successively, there is much dependable knowledge now available to serve as a guide and a safeguard in the administration of these remedies. One of the latest and most concise statements on this subject is to be found in Wesley W. Spink's¹ little book designed for the doctor in general practice.—L.J.M.

1. Spink, W. W. *Sulfanilamide and Related Compounds in General Practice*. The Year Book Publishers, Inc., Chicago.

"Forewarned Is Forearmed"

An interesting confession for the guidance and protection of others is hereby reprinted:

Mr. R. H. Graham,

Executive Secretary,
Oklahoma State Medical Association,
Oklahoma City, Okla.

Dear Mr. Graham:

I believe frequent reminders to the doctors of our state to avoid being "taken over" by unethical book-salesmen and agents, are helpful.

An agent recently bounced into my office on one of my busy days with a proposition. His company selected me from all others in this part of the state because of my "influence and prominence." His company wanted my endorsement for use in their extensive forthcoming advertising campaign in our community. In return I was to get their Americana Encyclopedia at a considerable reduction, besides the favorable "advertising." I signed their contract. When I tried to rescind my order 48 hours later, I was made to understand that the contract was non-cancelable. Of course I lost my deposit of thirty dollars. You can publish this letter if you like. Like all suckers I don't want my name mentioned.

MEDICAL SERVICE FOR CIVILIAN DEFENSE

The first of a series of pamphlets outlining medical provisions for civilian defense, designed for the organization of emergency medical field units, entitled "Emergency Medical Service for Civilian Defense" Bulletin No. One, was issued today by the Office of Civilian Defense.

The Bulletin outlines in considerable detail a basic plan for the organization and expansion of hospital facilities along both seaboards and in industrial areas in the interior. It also outlines plans for the rapid expansion of nursing facilities through intensive training of adequate numbers of Volunteer Nurses' Aides and other nursing auxiliaries.

In a foreword to the pamphlet, Mayor F. H. LaGuardia, U. S. Director of Civilian Defense, quotes from a similar official Bulletin issued in England in 1938, prior to the beginning of hostilities, as follows:

"The need for (these measures) is not related to any belief that war is imminent. It arises from the fact that the risk of attack from the air, however remote it may be, is a risk that cannot be ignored, and because of preparations to minimize the consequences of attack from the air, cannot be improvised on the spur of the moment but must be made, if they are to be effective, in time of peace."

Mayor LaGuardia concludes his preface to the pamphlet as follows: "Whether or not we regard danger to the lives and property of our people as imminent, I would urge that immediate steps be taken to carry out these recommendations of the Office of Civilian Defense in every state along our seaboards and in industrial areas in the interior."

The pamphlet describes the changed technique of warfare predicated upon the bombing of civilians as necessitating preparation for providing medical service to casualties through establishment of Medical Field Units. It declares the organization of such facilities must be a fundamental part of the civilian defense program.

After outlining, in diagram form, the structure, of Emergency Medical Service, the pamphlet thereupon describes in detail the basic organization plan under the following topical subheadings:

1. Local Chief of Emergency Medical Service (responsible for coordinating all local emergency medical facilities).

2. Local Medical Advisory Council on Civilian Defense (includes representation from the health department, hospital field, local Red Cross Chapter, and municipal and volunteer agencies).

3. Emergency Medical Field Units.

Under each subheading the functions of the several divisions are described in detail.

The pamphlet prescribes the personnel of the Emergency Field Unit, divided into squads on call for each 12 hour shift, including physicians, nurses and nursing auxiliaries.

The squads are designed for communities varying in population from 25,000, 50,000 and 100,000.

Under the heading, "Casualty Stations and First Aid Posts," the Bulletin describes the operation of these Emergency Medical Field Units as follows: "they respond promptly to the call of the Control Center and are dispatched from the nearest hospitals in ambulances or other vehicles. They establish Casualty Stations at certain predetermined sites in the vicinity of the disaster. For this purpose, the Chief of Emergency Medical Service will provide a spot map of the community on which is recorded the available sites for Casualty Stations. From such Casualty Stations, teams of one or more physicians, nurses and auxiliaries may be split off for the purpose of establishing one or more subsidiary First Aid posts at other favorable sites."

"Rescue Squads" and "Stretcher Teams" bring the injured out of the danger zone and conduct or transport them on stretchers to the Casualty Stations and First Aid Posts. The Bulletin emphasizes the necessity for field drills of these units at least once each month.

Under the heading "Base and Evacuation or Clearing Hospitals," the Bulletin outlines an inventory to be made by the Chief of Emergency Medical Service of hospitals, convalescent homes and other institutions within a radius of 50 or more miles of each locality. These may be required in the event of an emergency so as to release hospital beds within the city. The first to be evacuated at times of crisis to a more distant, protected site would be the maternity and children's services and certain categories of the hospitalized sick. The injured would be evacuated as soon as possible to Base Hospitals situated outside of the metropolitan area.

Under "Augmentation of Nursing Services" provision is made for the training of 100,000 Volunteer Nurses' Aides, in collaboration with the American National Red Cross, and for the training of greater numbers of registered nurses and nursing auxiliaries, in collaboration with the Federal Security Agency.

Under the subheading "Transportation," the pamphlet describes essential means of transporting casualties in station wagons, trucks, ambulances, passenger vehicles and

also describes special racks which can be installed in ambulances, stationwagons, and small trucks to permit transportation of four or more stretcher patients at one time.

The pamphlet concludes with a description of First Aid courses which have been revised by the Office of Civilian Defense in collaboration with the American National Red Cross. The pamphlet declares it is the purpose of this program to provide First Aid Instruction at first for five percent of the personnel of every factory, business establishment and governmental department, who should comprise the "First Aid Corps" of their organization. From this group, instruction should spread to all other employees and into every home in the United States.

The Bulletin was prepared by the Medical Division of the Office of Civilian Defense, of which Dr. George Baehr, Medical Director, U. S. Public Health Service, is Chief Medical Officer, and the Medical Advisory Board, of which he is chairman. It will be distributed by State Councils of Civilian Defense to local Directors of Civilian Defense. In addition to Dr. Baehr, the Medical Advisory Board comprises the following:

Dr. Robin C. Buerki, Madison, Wis.,
Past President American Hospital Association.

Dr. Elliott C. Cutler, Boston, Mass.,
Professor of Surgery at Harvard Medical School.

Dr. Oliver Kiel, Wichita Falls, Tex.,
Texas State Board of Medical Examiners.

Dr. Albert McCown, Washington, D. C.,
Assistant Medical Director, American Red Cross.

Dr. Fred W. Rankin, Lexington, Ky.,
President Elect of the American Medical Association.

Dr. Huntington Williams, Baltimore, Md.,
Commissioner of Health of Baltimore.

In the Congress of the United States House Resolution 4476

On July 31, the membership of the Association was advised through a bulletin to the County Secretaries and the County Societies' Public Policy Committees the nature of House Resolution 4476, which deals with the employment of osteopaths as interns in military hospitals. This resolution has been passed by the House of Representatives and referred in the Senate to the Military Affairs Committee. Senator Josh Lee of Oklahoma is a member of this committee, and has been contacted by the Association and its component societies concerning his stand on this legislation.

We reprint in full the correspondence with Senator Lee concerning H. R. 4476. The letter from the Association dated August 22 is in response to a letter received from Mr. Benefield, Senator Lee's secretary, advising the Association that Senator Lee was not in Washington at the time the previous letter setting out the Association's attitude toward H. R. 4476 was communicated to him.

Oklahoma State Medical Association August 22, 1941.

Mr. Loyd Benefield,
Secretary to Senator Josh Lee,
United States Senate,
Washington, D. C.
Dear Mr. Benefield:

I appreciate your letter of August 12 in which you state that Senator Lee will give proper consideration to H. R. 4476.

I trust that Senator Lee will advise me as soon as possible his attitude on this particular measure in order that the same may be communicated to the County Medical Societies and carried in the Journal of the Association, which reaches all members—approximately 1,500 in number.

Very truly yours,
R. H. Graham,
Executive Secretary.

United States Senate COMMITTEE ON MILITARY AFFAIRS September 10, 1941

Mr. R. H. Graham
Executive Secretary
The Oklahoma State Medical Association
Oklahoma City, Oklahoma
Dear Mr. Graham:

I appreciate your letter of August 22, which reached my attention shortly before leaving Washington to attend the Fourth Pan American Highway Congress in Mexico.

The bill to which you refer, H. R. 4476, has not been considered as yet by the Military Affairs Committee, of which I am a member. Although I have a policy of refraining from commitments on legislation, pending discussion in the committee, and on the floor, I assure you I shall keep in mind and advise the committee, at the appropriate time, of the view of the Oklahoma State Medical Association, with respect to this proposal.

As you probably know, my father was a physician and I believe I am therefore able to understand the point of view of the medical profession, having been thoroughly grounded in the principle of safeguarding this profession which has done, and is doing, so much for humanity.

Sincerely yours,
Josh Lee
U. S. S.

Petrolagar Changes Name to Petrogalar

A change in the spelling of the name "Petrolagar" to "Petrogalar" has been announced by the Petrolagar Laboratories. The change is being made in both the product name and corporate name.

Company officials, while pointing out that the adoption of the new spelling does not affect the formula or quality of the product in any way, said that they considered the change advisable to avoid any possible misconception as to the nature of the product.

"Because it has never been the intention of the company to imply that agar-agar was used for any other purpose than as an emulsifying agent, the last syllable of the former name has been altered in favor of the new spelling," officials said.

Officials emphasized that no change has been made in the size of the package, price, or formulae and that each of the five different types of the product will carry the new spelling "Petrogalar." The new corporate name is: *Petrogalar Laboratories, Inc.*, and the address remains, 5134 McCormick Boulevard, Chicago, Ill.

Annual Forum on Allergy to Meet January 10-11

The Fourth Annual Forum on Allergy will be held January 10 and 11, 1942, in Detroit, Mich., Jonathan Forman, M.D., Editor of the Ohio State Medical Association Journal, Columbus, Ohio, has announced.

ASSOCIATION ACTIVITIES

Association Granted Exemption

An important decision from the United States Treasury Department concerning the status of the Association in relation to the payment of Federal income tax has recently been received.

The Treasury Department's ruling was to the effect that the Association is exempt from the payment of Federal income tax.

The opinion from the Treasury Department further states:

"Contributions made to you are deductible by the donors in arriving at their taxable net income in the manner and to the extent provided by section 23(o) and (q) of the Internal Revenue Code and corresponding provisions of prior revenue acts.

"Bequests, legacies, devises or transfers, to or for your use are deductible in arriving at the value of the net estate of a decedent for estate tax purposes in the manner and to the extent provided by sections 812(d) and 861 (a) (3) of the Code and/or corresponding provisions of prior revenue acts. Gifts of property to you are deductible in computing net gifts for gift tax purposes in the manner and to the extent provided in section 1004 (a) (2) (b) and 1004 (b) (2) and (3) of the Code and/or corresponding provisions of prior revenue acts."

Under this ruling dues paid the Association by its members are deductible in computing their net taxable income.

Members of the Association should also note that bequests, legacies, devises or transfers to the Association are exempt from estate taxes, and gifts of property to the Association are deductible in computing net gifts for gift tax purposes.

Annual Secretaries Conference Postponed

The Annual Secretaries Conference of the Oklahoma State Medical Association, which was scheduled to take place October 26 in Oklahoma City, has been postponed until after the meeting of the Annual Secretaries Conference of the American Medical Association, November 14 and 15 in Chicago.

The Oklahoma Secretaries Conference, begun last year, was to have convened again immediately preceding the Oklahoma City Clinical Society meeting. However, because the A. M. A. Secretaries Conference meeting in Chicago will no doubt have much to offer the local Conference in the way of ideas and organization, the local group will not meet until the first part of December.

Oklahoma delegates to the meeting in Chicago will include Dr. Finis W. Ewing, President, Muskogee; Dr. Lewis J. Moorman, Secretary-Treasurer, Oklahoma City; Dr. L. S. Willour, Editor, McAlester; and Mr. R. H. Graham, Executive Secretary, Oklahoma City.

President Appoints Committee To Handle Benevolent Fund

As authorized by the House of Delegates at the Annual Meeting, President Finis W. Ewing, M.D., Muskogee, has appointed a special committee to report on the handling of the Association's surplus fund for benevolent and other purposes.

Members of the new committee are Dr. G. L. Johnson, Chairman, Pauls Valley; Dean Robert U. Patterson, Oklahoma City, and Dr. George R. Osborn, Tulsa.

The committee, to be known as the Benevolent Fund Committee, has been added to the listing of the State Officers and Committees, page xi in the Journal of the Association.

Blue Cross Plans Endorsed

Paul V. McNutt, Director of the Federal Security Agency, on September 14 announced the endorsement by the Office of Defense Health and Welfare Services, Health and Medical Committee and its subcommittees of hospitals, of group payment plans for hospital service.

Mr. McNutt in his release said he would urge upon employers to assume the maximum of responsibility in making hospital service and other community facilities available to their employees, as these plans combine the principles of private initiative and hospital service.

"The American Hospital Association is to be congratulated on the development of Blue Cross plans, which enable 7,500,000 Americans to place hospital care in the family budget along with other necessities. The Association has not only encouraged professional and administrative standards of service which have made American hospitals the best in the world; it has also developed a method by which these services are made available to the American people.

"The uncertainty of continued good health, and the importance of hospital care in the treatment of illness make it desirable for employed workers and their dependents to place hospital care in the family budget along with other necessities. Without such planning, many employed persons are now compelled to forego necessary hospital care, or to obtain free service in tax-supported institutions.

"One special feature of these Blue Cross plans which makes them particularly desirable for workers moving from one defense community to another is the arrangement for the transfer of paid-up subscribers from one area to another. All the flexibility possible should be encouraged so that the maximum protection to defense workers may be secured."

Group Hospital Service of Oklahoma is the only Blue Cross Plan in this state and had its inception through the interest and activities of both the Oklahoma State Hospital Association and the State Medical Association, and leading laymen.

Group Hospital Service in the past 18 months has made an outstanding record in bringing to the people of Oklahoma a service which its success clearly indicates was not only needed but desired by the people.

The Council of the Association in endorsing Group Hospital Service indicated again its determination to keep abreast of the times by helping to give to the people of Oklahoma the best health care possible. The Association further indicated its approval of the action of the Council in cooperating with the formation of Group Hospital Service, when the House of Delegates adopted the recommendation of the Council that the President appoint a committee to study prepaid medical and surgical benefits. The appointment of the committee was carried in the September issue of the Journal.

Date of Annual Meeting Changed

The Annual Meeting Committee of the Association in cooperation with the Medical Exhibitors Association and the Tulsa County Medical Society, the host group for the 1942 meeting, has announced a change of date for the meeting.

Originally scheduled for May 4, 5, and 6, of 1942, the meeting now will be held on April 29, and 30, and May 1.

The Scientific Work Committee is working out details for the presentation of an outstanding scientific program, since the 1942 meeting will commemorate the Fiftieth Anniversary of the Association.



Tasty Dishes for Welcome Meal-Time Come from Polyclinic's Kitchen

THIS COOK CATERS TO RETURNING APPETITES

A surprising number of patients rate a hospital according to its cuisine. Certainly the importance of nourishing, appetizing food cannot be minimized in the convalescent stage.

Meal time has come to be something looked forward to with pleasure by Polyclinic patients. They expect attractive trays of well-cooked food. Dietitians supervise menus and meal-planning and skillful women cooks prepare nourishing, wholesome dishes in Polyclinic's spotless kitchen. A cool, cheery dining room, with a pleasing eastern exposure is maintained for nurses.

MARVIN E. STOUT, M.D.
Owner

JOHN A. CUNNINGHAM, M.D.
House Surgeon

POLYCLINIC HOSPITAL

THIRTEENTH and ROBINSON

OKLAHOMA CITY

OBSTETRICS AND GYNECOLOGY BOARD ANNOUNCES EXAMINATIONS

The American Board of Obstetrics and Gynecology has made the following announcement regarding its examinations:

The written examination and review of case histories (Part I) for Group B candidates will be held in the various cities of the United States and Canada on Saturday, January 3, 1942, at 2:00 P.M. Formal notice of the place of examination will be sent each candidate several weeks in advance of the examination date. No candidate will be admitted to examination whose examination fee has not been paid at the Secretary's Office. Candidates who successfully complete the Part I examination will proceed automatically to the Part II examination held in June, 1942.

Candidates for *reexamination* in Part I (written paper and submission of case histories) must request such reexamination by writing the Secretary's Office not later than November 15, 1941. Candidates who are required to take reexaminations must do so before the expiration of three years from the date of their original examination.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting at Atlantic City, N. J., in June, 1942, immediately prior to the annual meeting of the American Medical Association.

Application for admission to Group A, Part II, examinations must be on file in the Secretary's Office not later than March 1, 1942.

As previously announced in the Board booklet, this fiscal year (1941-1942) of the Board marks the close of the two groups of classification of applicants for examination. Thereafter, the Board will have only one classification of candidates, and all will be required to take the Part I examinations.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

ANNOUNCEMENT OF VAN METER PRIZE AWARD

The American Association for the Study of Goiter again offers the Van Meter Prize Award of \$300 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The Award will be made at the annual meeting of the Association, at Atlanta, Ga., June 1, 2, and 3, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed 3,000 words in length; must be presented in English; and a type-written, double spaced copy sent to the Corresponding Secretary, Dr. T. C. Davison, 478 Peachtree Street, Atlanta, Ga., not later than April 1.

A place will be reserved on the program of the annual meeting for presentation of the Prize Award Essay by the author if it is possible for him to attend. The essay will be published in the annual Proceedings of the Association. This will not prevent its further publication, however, in any journal selected by the author.

Dr. Asher Chapman of Rochester, Minn., received the Award for the year 1941 in recognition of his essay entitled "The Relationship of the Thyroid and the Pituitary Glands to Iodine Metabolism and Extrathyroid Iodine Metabolism."

Dr. M. L. Peter Studies at Johns Hopkins

Dr. Maurice L. Peter, head of the Stillwater City-County Health unit for the past two years, left early in September for nine months of study at Johns Hopkins university.

Dr. Perry Hewitt will be acting head of the unit during Doctor Peter's leave of absence. Doctor Hewitt, who has been doing intern work in Montreal, Canada, is a first lieutenant in the army reserves and is on temporary leave from active duty.

Walter R. McBee to Texas

Walter R. McBee, who for the past 18 months has been Director of Group Hospital Service, has resigned his position to accept the directorship of Group Hospital Service of Texas.

Mr. McBee made an enviable record while director of the Oklahoma Plan and the many members of the Association who became acquainted with him will no doubt regret to learn of his resignation.

Group Hospital Service under Mr. McBee's direction has progressed steadily, and the success of the plan here in Oklahoma was instrumental in bringing to Mr. McBee the offer of the directorship of the Texas Plan.

The Board of Directors of Group Hospital Service have not as yet elected a new director.

Five State Doctors Called to Army; Five Have Orders Revoked

The following additional Oklahoma medical reserve corps officers have been ordered to active duty by the Commanding General, Eighth Corps Area, as published in the Journal of the American Medical Association.

Colvert, James R., 1st Lieut., Oklahoma City, Station Hospital, Fort Sill.

Dodson, George Edward, 1st Lieut., Muskogee, 45th Division, Camp Barkeley, Abilene, Tex.

Doyle, William Henry, Captain, Muskogee, Station Hospital, Fort Sill.

McCollum, Wiley Thomas, 1st Lieut., Wynoka, Station Hospital, Camp Wolters, Tex.

Williamson, Lawrence M., 1st Lieut., Lindsay, Station Hospital, Fort Sill.

Five Oklahoma physicians who had received their orders to report for active duty, had orders revoked. They are:

DeMeules, Edgar, A., 1st Lieut., Tulsa.

Hollis, Lynu E., 1st Lieut., Hollis.

Huggins, James R., 1st Lieut., Oklahoma City.

Prosser, Moorman P., 1st Lieut., Norman.

Rutherford, Vester M., 1st Lieut., Woodward.

Dr. A. M. Brewer at Johns Hopkins

Word has come from Dr. A. M. Brewer of Oklahoma City that he is taking a six months graduate course in Urology at the Johns Hopkins Hospital in Baltimore, Md.

Doctor Brewer will return February 1, 1942, to Oklahoma City, where he will resume practice, limiting it to Urology.

• OBITUARIES •

Dr. A. J. Welch 1853-1941

One of eastern Oklahoma's pioneer practitioners and one of the Association's best loved honorary members, Dr. A. J. Welch, McAlester, died September 7, in the home of his daughter, Mrs. Allen Wicks, Tulsa.

Doctor Welch, who had retired from active practice several years ago, was born March 24, 1853, near Newport, Ohio. He was graduated from the Sterling Medical college of Ohio in 1881, and did postgraduate work in the New York Medical school, and later took postgraduate courses in the Illinois School of Therapeutics in Chicago.

For 25 years, Doctor Welch practiced medicine in Mount Sterling, Ohio, then moved to McAlester, where he remained in practice till his retirement.

He was an active member of his profession, serving it for more than 50 years.

His survivors include two sons, David Rupert Welch, Independence, Kan., and Carlton B. Welch, Bartlesville, and two daughters, Mrs. Wicks, and Mrs. Mallory Hawk, McAlester. Seven grandchildren also survive.

Carrel's immortal chicken-tissue serves research at Lederle Laboratories—

It was in 1912 that DR. ALEXIS CARREL put this bit of chick embryo heart into a nutrient and made it grow. Every 48 hours since then it has doubled. If it had been feasible to multiply the tissues to their greatest possible extent, today their mass would be bigger than the solar system. When DR. CARREL retired, the strain was brought to Lederle, where it lives on in the right environment. Here cultures from it serve as standards for studying the growth of certain viruses. And it is a useful tool for measuring antiseptic values. Indeed research has put immortality to work!

Tissue culture has become a productive art and the control of 65 virus diseases of man or beast is a proper task for research in the world's largest immunological establishment. Four buildings (out of 67) are devoted to viruses—the two largest are used entirely for research.

LEDERLE LABORATORIES, INC.

30 ROCKEFELLER PLAZA

NEW YORK, N. Y.



MEDICAL PREPAREDNESS

THIRTY-SEVEN OKLAHOMA DOCTORS SERVE WITH NATIONAL GUARD

Following is a list of the 37 Oklahoma medical officers on duty with the National Guard, together with the organization and camp at which they were serving when this report was submitted to the Journal of the American Medical Association:

Anderson, Parkey H., Major, Anadarko, 158th Field Artillery, Camp Barkeley, Abilene, Texas.

Baker, Alfred T., Captain, Durant, 180th Infantry, Fort Sill.

Baker, Roscoe C., Major, Enid, 189th Field Artillery, Camp Barkeley.

Bolend, Rex G., Colonel, Oklahoma City, 120th Medical Regiment, Camp Barkeley.

Bond, Ira T., Jr., Captain, Enid, Special Troops, 45th Division.

Cloudman, Harry H., Lient. Colonel, Oklahoma City, 120th Medical Regiment, Camp Barkeley.

Daly, John F., Captain, Pawhuska, 120th Medical Regiment, Camp Barkeley.

Davidson, Wallace N., Major, Cushing, 120th Medical Regiment, Camp Barkeley.

Davis, Thomas H., Captain, Tulsa, 120th Medical Regiment, Camp Barkeley.

Deaton, Andy N., Major, Wewoka, 160th Field Artillery.

Dimmington, William G., Captain, Cherokee, 189th Field Artillery, Camp Barkeley.

Ensey, James E., Major, Altus, 120th Quartermaster Regiment, Fort Sill.

Fowler, Arthur, Jr., Captain, Sulphur, 158th Field Artillery, Camp Barkeley.

Hammond, James H., Capt., Tulsa, 120th Medical Regiment, Camp Barkeley.

Hemphill, Paul H., Captain, Pawhuska, 120th Medical Regiment, Camp Barkeley.

Holcomb, Roland N., Major, Muskogee, 180th Infantry, Fort Sill.

Hood, James O., Captain, Norman, 179th Infantry, Fort Sill.

Kaiser, George L., Captain, Muskogee, 180th Infantry, Fort Sill.

Lawson, Patrick H., Major, Marietta, 179th Infantry, Fort Sill.

LeHew, Elton W., Captain, Pawnee, 179th Infantry, Fort Sill.

Lindstrom, William C., Captain, Oklahoma City 120th Engineers, Camp Barkeley.

McDonald, Glen W., Captain, Ada, 120th Medical Regiment, Camp Barkeley.

McKinney, Milam F., Captain, Oklahoma City, 120th Quartermaster Regiment, Fort Sill.

Miles, Walter H., Major, Oklahoma City, 120th Medical Regiment, Camp Barkeley.

Oglesbee, Carson L., Captain, Muskogee, 180th Infantry, Fort Sill.

Ohl, Charles W., 1st Lieut., Chickasha, 189th Field Artillery, Camp Barkeley.

Perry, Daniel L., Major, Cushing, 120th Medical Regiment, Camp Barkeley.

Ritzhanpt, Louis H., Major, Guthrie, State Staff.

Sanger, Fenton A., Major, Oklahoma City, 120th Medical Regiment, Camp Barkeley.

Smith, Lester P., Captain, Marlow, 179th Infantry, Fort Sill.

Starkey, Wayne A., Captain, Altus, 120th Quartermaster Regiment, Fort Sill.

Tackett, Orville H., Captain, Oklahoma City, 120th Medical Regiment, Camp Barkeley.

Taylor, Lewis C., Captain, Oklahoma City, 120th Medical Regiment, Camp Barkeley.

Tracy, Gilbert W., Captain, Erick, 120th Medical Regiment, Camp Barkeley.

Waltrip, Jesse R., Captain, Yale, 158th Field Artillery, Camp Barkeley.

Webster, William H., 1st Lieut., Ada, 120th Medical Regiment, Camp Barkeley.

Wolfe, Ira C., Captain, Muskogee, 180th Infantry, Fort Sill.

FEDERAL AGENCY TO SELECT DEFENSE DOCTORS URGED

In the interests of national defense, the establishment at the earliest possible moment of a Federal agency for the procurement and assignment of physicians for military, civilian and industrial service is urged in an editorial in the July-August issue of *War Medicine*, published bimonthly by the American Medical Association, Chicago, in cooperation with the Division of Medical Sciences of the National Research Council, Washington, D. C. The editorial says:

"At the Annual Session of the American Medical Association held in Cleveland in June, 1941, the Committee on Medical Preparedness [of the Association] brought to the House of Delegates a resolution urging the establishment of a central agency, to be known as the Procurement and Assignment Agency, which would enable the government to select more promptly and more wisely those physicians necessary for military, civilian and industrial service. The text of this resolution is as follows:

"WHEREAS, The President of the United States has declared that we are in a state of unlimited national emergency, and the Surgeon General of the United States Army requested the American Medical Association in June 1940 at the Annual Session to aid in the procurement of the necessary personnel for an army of 1,500,000 men; and

"WHEREAS, The American Medical Association established a Committee on Medical Preparedness, which has now on hand the records of approximately 150,000 physicians as well as a statement as to their training, experience and specialization; and

"WHEREAS, The sudden entrance of the United States into a war might immediately require the services not only of the physicians already called to duty but of a very considerable additional number; and

"WHEREAS, Neither the American Medical Association nor any other civilian agency has the responsibility or the authority for the selection of those physicians who would be necessary for immediate duty and who would be called from civilian practice into service with the military agencies; therefore be it

"Resolved, that the United States government be urged to plan and arrange immediately for the establishment of a central authority, with representatives of the civilian medical profession, to be known as the Procurement and Assignment Agency for physicians for the Army, Navy, and Public Health Service and for the civilian and industrial needs of the nation.

"This recommendation is made to avoid or minimize confusion and the inevitable delay which would result from the lack of such an arrangement. It is further recommended by the Committee on Medical Preparedness that if this resolution is approved by the House of Delegates a copy of it be sent to the President of the United States, the Secretary of War, the Secretary of Navy, the Chairman of the Senate and the House Committee on Military Affairs, the Administrator of the Federal Security Agency, the Surgeons General of the Army, the Navy and the Public Health Service, the Adjutant General of the Army and the Health and Medical Committee.

"Subsequently this resolution was endorsed by the Health and Medical Committee, which has been assigned to the [Federal] Coordinator for Health Welfare and Related Activities.

"In all the warring nations the problem of medical personnel is prominent. Articles in British medical journals frequently reflect the difficulty of maintaining in Great Britain the social medical system, which includes the physicians who carry on the panel practice, of supplying industries with the innumerable physicians required under present regulations and of giving medical attention to the Army, the Navy, the Royal Air Force and the civilian defense groups. A note from Germany indicates that because of the depletion of the medical profession by emigration and the needs of

the military services there are now some areas in which there is available only 1 physician to every 4,500 people.

"Already it is apparent that the procurement and assignment of physicians in the United States for some of the innumerable calls which are likely to be made on them in the near future are going to be a task that will take the best available information and organizational ability. Apparently the needs for medical personnel which must be supplied are about as follows:

1. The United States Army Medical Corps and the United States Army Medical Reserve Corps
2. The United States Navy Medical Corps and the United States Navy Medical Reserve Corps
3. Physicians for the United States Public Health Service
4. Physicians for the Selective Service Administration, including local boards and appeal boards
5. Physicians for civilian medical service
6. Physicians for aid to Britain, requested by the American Red Cross
7. Physicians for industrial medicine.
8. Physicians for service in rehabilitation
9. Physicians for civilian defense organizations
10. Physicians for state and county medical and public health organizations
11. Physicians for medical divisions in other government services

"Already the American Medical Association has available on a punch card system the names of more than 160,000 American physicians licensed to practice, with complete information regarding their ability and availability for many different types of medical service. Nevertheless, the utilization of this material must await the establishment of some agency capable of acting with authority for purposes of procurement and assignment of physicians in times of emergency.

"After the session of the House of Delegates of the

American Medical Association the resolution here quoted was sent to the various persons and the committee who are mentioned in the final paragraph. If such an agency is to be of greatest possible service, it should be organized and ready to function before the moment when it is most needed. It would be well if the national administration could give prompt consideration to the desirability of establishing an agency of this kind at the earliest possible moment."

Several Oklahoma Medical Officers Receive Promotions in Rank

Several Oklahoma physicians who are serving as medical officers in the army have received promotions in rank recently, according to reports received in the office of the Association.

Dr. Howard B. Shorbe, Oklahoma City, who is serving in the Station Hospital at Fort Sill, received a commission as captain.

Dr. John F. Simon, Alva, who has been on active duty at Fort Sill, was promoted from a first lieutenant to the rank of captain. Dr. C. A. Traverse, also of Alva and who also was serving as a first lieutenant, has been made a captain. Doctor Traverse is stationed at Camp Bowie, Brownwood, Texas, for his active duty.

Dr. Everett G. King, Duncan, was promoted from a lieutenantcy to a captaincy in July. He is assigned to the 64th Medical Regiment at Camp Bowie, Brownwood, Texas.

Dr. H. A. Zampetti, former Director of the Comanche County Health department, Lawton, has also received his captaincy in the army. He is in charge of the government hospital at Fort Logan, Denver, Colorado.

Dr. R. C. Baker of Enid, who was called to active service last year, recently received his rank as Lieutenant Colonel. Doctor Baker is now stationed with the 189th Field Artillery at Camp Barkeley.

Lain-Eastland-Lamb Clinic

*Dermatology, Syphilology,
Radium and X-Ray
Therapy*

Everett S. Lain, M.D.

Wm. E. Eastland, M.D.

John H. Lamb, M.D.

Medical Arts Building

Oklahoma City, Oklahoma

NEWS FROM THE COUNTY SOCIETIES

The Cleveland County Medical society made a record believed not reached by any other medical society last year, when all physicians doing active practice in Cleveland county were members of the society, bringing the membership to 32.

The society began its new fall program September 11, with a meeting at the Central State Hospital, Norman. Dr. John Powers Wolff, Oklahoma City, guest speaker, discussed "Phlebitis" before the group.

The Washington-Nowata county society resumed monthly meetings September 10, when members convened at the Memorial Hospital in Bartlesville.

Chief speaker on the program was Dr. W. H. Shipman, Bartlesville, who read a paper on "Reportable Diseases." A general discussion of Doctor Shipman's topic followed his talk.

Members of the Woods county society have been busy through September with the free clinics at the schools of Woods county. The clinic program, which was started September 11, will continue through November 21, Dr. O. E. Templin, Alva, Secretary of the society, has announced.

Continuing an annual custom, the Jackson and Greer county medical societies met together, August 25, to welcome new members and to further the good fellowship between the members of the two societies.

The meeting took the form of a barbeque dinner in the home of Dr. R. Z. Taylor, Blair. Among those in attendance were Dr. Fowler Border, Dr. J. B. Hollis, Dr. Robert F. Harp, Dr. E. M. Poer and Dr. G. P. Cherry, all of Mangum; Dr. J. G. Lansden and Dr. R. W. Lewis of Granite; and Dr. A. E. Abernathy, Dr. J. M. Allgood, Dr. Raymond H. Fox, Dr. Willard D. Holt and Dr. C. G. Spears, all of Altus.

Wives of the members and members of other professional groups were the guests September 19 of the Pittsburg county society at a meeting in McAlester. General Electric's motion picture, "Exploring With X-Rays," was the feature of the program.

Members are making plans to take part in the meeting of the Southeastern Medical Association, October 7, in Poteau, where Dr. Harry Wilkins, Oklahoma City, will be a guest speaker.

Two guest speakers from Fort Smith, Ark., highlighted the program of the Okfuskee-Okmulgee county society meetings, September 8, in Henryetta.

Dr. C. L. Wilson of Fort Smith discussed, "Prostatism," and Dr. Marlin Hogue talked on "Cirrhosis of the Liver." Two other members of the Sebastian County of Arkansas were guests, and four members of the Muskogee county society were also present.

About 14 members were present. The society will meet again October 13 in Okmulgee. Dr. Harry L. Smith of the Mayo clinic, guest speaker for the evening, will discuss, "Newer Aspects in the Treatment of Congestive Heart Failure."

In place of their regular meetings, members of the Custer County Medical society are attending the weekly Postgraduate lecture course in Pediatrics given by Dr. James G. Hughes, Memphis, Tenn. The society will resume its regular monthly meetings, when the course is over.

Another county society devoting its meeting time to

the Postgraduate course in Pediatrics is the Canadian county group. Members attend weekly lectures in El Reno.

Dr. Hugh H. Monroe, Lindsay, spoke on "Differential Diagnosis and Treatment of Pain Arising from the Female Pelvis," at a meeting of the Garvin county medical society, September 17 in the Chamber of Commerce Rooms, Pauls Valley.

This was the society's first meeting since June, and it opened the new fall season of regular monthly meetings for the society.

County Medical society when members met September 18 at the Miami Baptist hospital, Miami. Doctor Neff, who is Chief of Staff of the Pediatrics Section of the University of Kansas, was assisted in the clinic by Doctor Maurer, also of Kansas City.

Ten members of the society were present at the meeting. As part of the Pediatrics program, a motion picture of a tumor of the adrenal gland of a child less than two years old, with marked improvement after surgery, was shown.

The society will meet again October 16.

Washington-Nowata Society Program Received

The Executive Office has again received the yearly program of the Washington-Nowata County Medical society, and believes that this program has much of value and interest to offer the society's members.

The program includes scientific lectures by members and guest speakers, regular business staff meetings and a banquet to be held on the occasion of the installation of 1942 officers.

Dr. and Mrs. Henry Browne at Home

Dr. and Mrs. Henry Browne, Tulsa, are now at home at 2727 South Boston, following a three weeks honeymoon in Mexico City.

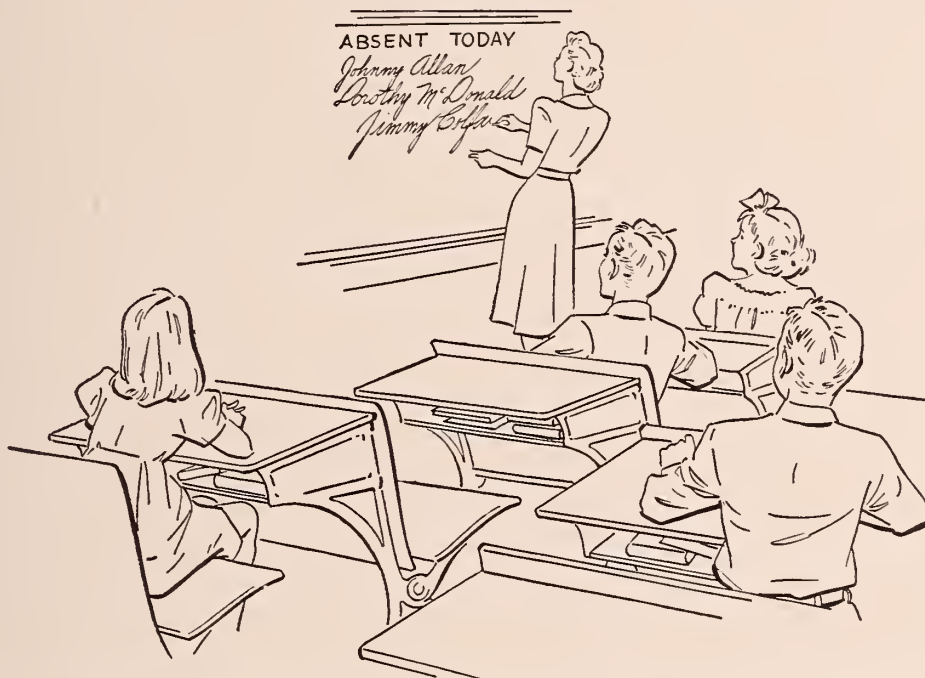
The wedding of Doctor and Mrs. Browne, the former Mrs. Willie Broach, was an event of August 16, in Tulsa.

Auxiliary News

The Cleveland County auxiliary met at the Central State Hospital, Norman, on September 11 at 7:30 P.M. for their first meeting this year. As a social feature a light dessert course was served at 7:00 P.M. preceding the meeting. There were nine members present, with Mrs. Jim L. Haddock, president, in charge of the meeting. This was the fall organization meeting and the discussion consisted of the program for the coming year, social activities and sewing and knitting for the Red Cross.

The first board meeting of the Oklahoma County auxiliary was held at the home of Mrs. Neil Woodward, president, on September 17, at which time plans were made for the registration coffee to be given October 3 from 10:00 to 12:00 at the Y. W. C. A. The Oklahoma County auxiliary will meet on the fourth Wednesday of each month this year at the Y. W. C. A. for their regular meetings at 9:00 A.M. Members will again work on layettes and scrap books, the layettes being furnished to needy cases and the scrap books being made for the children at the Crippled Children's Hospital, Oklahoma City.

Home with a head cold



When you prescribe Racéphedrine Hydrochloride (Upjohn) for topical use in children, your small patients will find that it relieves nasal congestion

without unpleasant smarting or burning. The reason is that the vehicle used in making the 1% solution is isotonic, and therefore relatively nonirritating.

RACÉPHEDRINE HYDROCHLORIDE (UPJOHN)

is available as:

Solution Racéphedrine Hydrochloride (Upjohn)
1% in Modified Ringer's Solution, in one ounce
dropper bottles for prescription purposes, and in
pint bottles for office use

Capsules Racéphedrine Hydrochloride (Upjohn),
 $\frac{3}{8}$ grain, in bottles of 40 and 250 capsules

Powder Racéphedrine Hydrochloride (Upjohn),
in $\frac{1}{4}$ ounce bottles



If the patient reclines on the side with the head at an angle of about 45° , a decongestant solution applied to the lateral aspect of each nostril will reach the orifices of the nasal sinuses of both sides.

Upjohn

KALAMAZOO, MICHIGAN



Fine Pharmaceuticals Since 1886

University of Oklahoma School of Medicine

The School of Medicine started classes on September 15, with 235 students enrolled as follows:

Freshmen	66
Sophomores	54
Juniors	60
Seniors	55

The Admissions Committee considered a total of 168 applicants, of which 161 were for admission to the first year class, and seven were for admission to advanced standing from the other medical schools. A total of 74 residents and three non-residents were accepted for admission to the first year class. Due to financial difficulties and other reasons, only 64 residents and two non-residents accepted their appointment to the first year class.

It will be noted that a total of 77 were accepted for the first year class when the enrollment for this year is limited to 70 students. Several who were approved for admission at the June meeting of the Admissions Committee declined the appointment and all vacancies were filled at the September meeting.

A total of 47 counties were represented by 125 applications from residents of the State of Oklahoma. The 64 residents actually enrolled in the first year class came from 36 counties.

Students enrolled in the first year class are as follows:

NAME	HOME TOWN
Allen Clifford Ward	Tulsa
Barno, Alex	Hartshorne
Berger, Elmer Stanley	Grand Junction, Colo.
Blackert, Dorothy Frances	Hollis
Booth, George Randolph, Jr.	LeFlore
Bowman, Loyal	Seminole
Burgdorf, Richard Herbert	Custer
Capehart, Maurice Phillip	Bixby
Cawley, Francis Patrick	Fairview
Clymer, John Hatchett	Oklahoma City
Combs, Leon Doyle	Davenport
Conrad, Betty Louise	Bristow
Cunningham, Charles Stewart	Purcell
Dixon, Robert Wendell	Moreland
Ford, Fred R.	Oklahoma City
Forester, Virgil Ray	Shawnee
Guild, Carl Holmes	Shidler
Guthrey, George Henry	Cardin
Hale, Arthur E.	Alva
Hampton, James Barnett	Miami
Hardy, Samuel I.	Ada
Harris, Richard Lowell	Tolosa
Henson, Minnie Marie	Enid
Hohl, James Fitton	Sand Springs
Hollingsworth, Francis Willis	Oklahoma City
Johnson, Robert Ray	Jenks
Kaplan, Sidney	Yonkers, N. Y.
Lowry, Dick Moss	Oklahoma City
McAnerny, Francis Arthur	Sayre
McGee, Harry	Pauls Valley
McGraw, Willard Lyal	Oklahoma City
McSpadden, Floyd Fuller	Hominy
Merrifield, Vernon Conrad	Norman
Morgan, Robert Jesse	Oklahoma City
Morrison, John Wildey	Weatherford
Oppen, Marshall	El Reno
Oxley, William Nathan	Cleo Springs
Parrish, Roy Gibson	Comanche
Peters, James Coldren	Pawnee
Pfundt, Robert Theodore	Oklahoma City
Pfundt, Theodore Robert	Oklahoma City
Phipps, John, Jr.	Davis
Powell, Robert Thornton	Oklahoma City
Prentice, Pamela Richardson	Oklahoma City
Rahhal, George Metray	Wetumka

Rollins, James Hugh	Ardmore
Ross, Hoke Smith, Jr.	Lawton
Rutledge, Art Henry	Ada
Rutledge, Ben Allen	Ada
Salamy, Joe	Anadarko
Sapper, Herbert Victor Louis	Oklahoma City
Shackelford, Paul Olden	Haskell
Shriner, Richard Floyd, Jr.	Duncan
Shuttee, Robert David	El Reno
Simon, Ralph	Tipton
Smith, James Ronald	Kingfisher
Snoddy, William Thomas	Norman
Strode, Jack William	Pawnee
Temple, Lewis Albert	Oklmulgee
Thompson, Willard Van Voorhis	Oklahoma City
Vammen, Adolph Nathaniel	Oaks
Wade, Glenn Franklin	Mangum
Waters, Philip Cook	El Reno
White, Carroll Melvin	Tulsa
Wilson, Jay Deane	Oklahoma City
Young, Millington Oswald	Oklahoma City

Dr. L. A. Turley, Professor of Pathology, and Dr. Kenneth M. Richter, Research Fellow in Pathology who has recently accepted a position in the North Dakota School of Medicine, were awarded First Honorable Mention by the Van Meter Prize Award Committee of the American Association for the Study of Goiter for the year 1941 on their essay entitled "The Relation of Lymphocytosis to Hyperthyroid States." This award is given for the most outstanding work of the year on the subject of goiter or the thyroid.

Effect of Military Service

During the past fiscal year 17 members of the visiting staff of the hospitals and faculty of the School of Medicine were called to active duty in various military services. Twelve Interns and Residents for the house staff of the hospitals, 13 graduate nurses and 11 non-professional employees have gone into various branches of military service.

News From The State Health Department

The following list of County Health Superintendents has been released recently by Dr. Grady F. Mathews, Commissioner of Health, Oklahoma State Health Department.

COUNTY	SUPERINTENDENT	ADDRESS
Adair†	R. M. Church	Stilwell
Atoka*	J. C. Canada	Atoka
Alfalfa	L. T. Lancaster	Cherokee
Beaver†	L. L. Long	Beaver
Beckham	L. V. Baker	Elk City
Blaine*	W. F. Griffin	Watonga
Bryan*	Paul Sizemore	Durant
Caddo*	Hugh H. Hawley	Anadarko
Canadian	A. L. Johnson	El Reno
Carter*	W. W. Mead	Ardmore
Cherokee†	R. K. McIntosh, Jr.	Tahlequah
Choctaw†	O. R. Gregg	Hugo
Cimarron†	H. B. Hall	Boise City
Cleveland*	William A. Loy	Norman
Coal	J. J. Hipes	Coalgate
Comanche*	Vance Morgan	Lawton
Cotton	G. W. Baker	Walters
Craig	Lloyd H. McPike	Vinita
Creek*	W. L. Pickhardt	Sapulpa
Custer	Harry R. Cushman	Clinton
Delaware†	J. W. Prowell	Kansas
Dewey	W. E. Seba	Leedey
Ellist	J. P. Beam	Arnett
Garfield	Paul H. Rempel	Enid
Garvin	H. H. Monroe	Lindsay
Grady	J. F. Renegar	Tuttle

Grant	S. A. Lively	Wakita
Greer	J. T. Lowe	Mangum
Harmon	R. H. Lynch	Hollis
Harper†	Forrest Z. Winchell	Buffalo
Haskell	J. C. Runley	Stigler
Hughes	W. E. Floyd	Holdenville
Jackson	C. G. Spears	Altus
Jefferson	J. I. Derr	Waurika
Johnston†	J. T. Looney	Tishomingo
Kay	C. C. Gardner (Acting)	Ponca City
Kingfisher*	A. O. Meredith	Kingfisher
Kiowa	J. L. Adams	Hobart
Latimer	J. M. Harris	Wilburton
LeFlore*	R. L. Wright	Poteau
Lincoln	F. H. Norwood	Prague
Logan*	Roy W. Anderson	Guthrie
Love†	W. V. Batson	Marietta
McClain*	W. C. McCurdy	Purcell
McCurtaint	R. D. Williams	Idabel
McIntosh	D. E. Little	Eufaula
Major	B. F. Johnson	Fairview
Marshall†	John L. Holland	Madill
Mayes†	E. H. Werling	Pryor
Murray	G. W. Slover	Sulphur
Muskogee*	J. T. McInnis	Muskogee
Noble	J. W. Frances	Perry
Nowata	S. P. Roberts	Nowata
Okfuskee	J. L. Spickard	Okemah
Oklahoma*	George Hunter	Oklahoma City
Oklmulgee*	H. L. Rainis	Oklmulgee
Osage	William H. Aaron	Pawhuska
Ottawa	A. R. Hughes	Miami
Pawnee	R. E. Jones	Pawnee
Payne*	M. L. Peter	Stillwater
Pittsburg	J. Dorrrough (Acting)	McAlester
Pontotoc*	W. R. Cheatwood	Ada
Pottawatomie*	Charles W. Haygood	Shawnee
Pushmataha	E. S. Patterson	Antlers
Roger Mills*	W. S. Cary	Reydon
Rogers	W. A. Howard	Chelsea
Seminole*	M. I. Shanholtz	Wewoka
Sequoyah†	W. H. Newlin	Sallisaw
Stephens	S. S. Garrett	Duncan
Texas†	Daniel S. Lee	Guymon
Tillman	J. E. Childers (Acting)	Frederick
Tulsa	L. C. Presson	Tulsa
Wagoner	H. K. Riddle	Coweta
Washington	W. H. Shipman	Bartlesville
Washita	E. S. Weaver	Cordell
Woods	O. E. Templin	Alva
Woodward	V. M. Rutherford	Woodward

(* Indicates a full-time health department).

(† Indicates in a full-time health district).

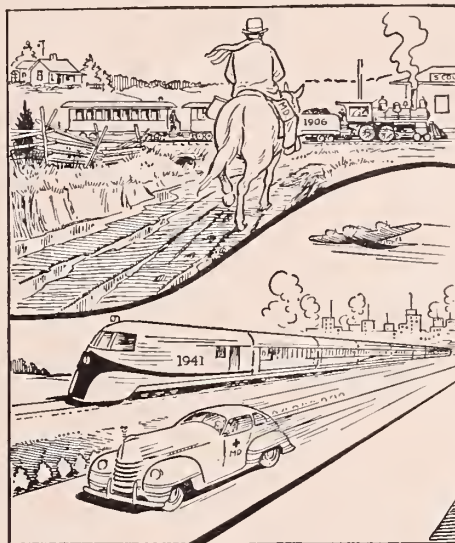
American Neisserian Medical Society Will Present Annual Award

The American Neisserian Medical Society announces an annual prize of \$100, to be known as the P. S. Pelouze Award, to be presented to the person under 35 years of age who, in the opinion of the Committee of Awards, has made the outstanding contribution to the control of the gonococcal infections during the preceding year.

Any member of the Association who wishes to compete for the prize or to nominate another doctor for it should direct his nomination together with his or that doctor's qualifications to the Council of the Association. The Council, in turn, will direct the Oklahoma nominations to the Secretary of the American Neisserian Medical Society before March 31 of each year.

Depression or No Depression. War or No War

Since 1930, month after month, a unique series of educational-to-the-public advertisements have appeared on the first page of Hygeia. The sponsor's name, Mead Johnson and Company, has to be looked for with a magnifying glass, and appears only for copyright purposes. Not a product is ballyhooed. Instead, appears good, clean, convincing reasons, with choice illustrations, why mothers should seek pediatric advice from their physicians.



IN STEP WITH PROGRESS FOR THIRTY-FIVE YEARS

SINCE the Southern Medical Association was founded back in 1906, thirty-five years ago, there has been no deviation from that one objective laid down by the founders, the objective which distinguishes the Southern Medical Association from other professional groups—the exclusive purpose to develop and foster scientific medicine and surgery in the South.

SUCH a singleness of purpose and devotion to an ideal accounts largely for a history of unusually successful annual meetings, each better than the last. Logically, the past is a basis for predicting another top meeting at St. Louis, November 10-13.

REGARDLESS of any physician's medical interest, there will be much to challenge this interest at St. Louis. Eleven general clinical sessions, nineteen sections, three independent organizations meeting conjointly, and outstanding scientific and technical exhibits, will be available—still in step with progress.

ALL members of state and county medical societies in the South are cordially invited to attend. And all members of state and county medical societies in the South can be and should be members of the Southern Medical Association. The annual dues of \$4.00 include the Southern Medical Journal, a fine publication recognized as a valuable instrument to physicians of the South in the pursuit of their professional careers.

SOUTHERN MEDICAL ASSOCIATION
Empire Building
BIRMINGHAM, ALABAMA

American Hospital in Nanking Wins Friendship of Chinese

New York — The University Hospital of Nanking, supported by American donations, handled an average of 9,702 patients each month in the last six months, a report issued by United China Relief, announced recently.

The hospital, run by the University of Nanking, one of the 13 colleges in occupied and unoccupied China supported by the Associated Boards of Christian Colleges in China, one of the eight relief groups participating in the United China Relief campaign, has expanded its services since the war. Besides maintaining the 120-bed hospital on the University campus, five health clinics are now run in different parts of the city.

In addition to the 9,702 patients who received treatment at the University Hospital and Clinics, 185 major operations were carried out during the same period, the report stated. Total operating expense for one month was only \$2,698.60 Chinese dollars, or \$200.00 in American money.

Through bombings, siege and throughout the Japanese occupation of the former Chinese capital, the doors of the hospital and clinics have remained open, the report said. No person was turned away because he was too poor to pay. For more than three years the hospital has been the only place for first-class medical care for Chinese in and around Nanking.

The American staff, in addition to its heavy burden of work, has found time to train Chinese interns to take on the increased responsibilities of the expanding services. One hundred girls have been in attendance each of the past two years at a nurses training school attached to the hospital.

The University of Nanking, part of whose staff stayed behind to carry on the work of their hospital, is one of the American Christian colleges now serving the Chinese people in many ways. Hospitals are maintained through-

out the country by these schools, and two first-class medical schools attached to the universities have managed to continue their training, despite the difficulties of war.

The Associated Boards and United China Relief recently issued an appeal for funds to maintain and develop the medical work of these Christian Colleges in China.

Industrial Health Conference to Be Held

Under the auspices of the American Association of Industrial Physicians and Surgeons, the American Conference on Industrial Health will hold its Second Annual Meeting November 5-6, at Chicago Towers, Chicago. This organization maintains a public forum for all who are interested in the prevention of disease, injury and disability in industry, and the active supervision and promotion of health in industrial groups.

The opening session will be a symposium on the technical problems of industrial health; the afternoon session will be a symposium on the economics of industrial health, and the morning of the second day will be devoted to a symposium on the social implications of public health. The sessions will close with a schedule of plant medical department inspections, by special arrangements with local industries.

Military Surgeons to Meet October 29

Among the many medical meetings of this year, one of the most timely and interesting is that of the Association of Military Surgeons of the United States, to be held October 29-November 1, at the Brown Hotel in Louisville, Ky.

All members of the medical profession are urged to attend as guests, as there will be something of special interest for every member of the profession who is present.

The session concludes with a mass review of Military Medicine and an inspection of Fort Knox.

For the local Treatment of Acute Anterior Urethritis

(DUE TO NEISSERIA GONORRHEAE)

SILVER PICRATE*

Wyeth

Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by Neisseria gonorrhoeae.¹ An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

A complete technique of treatment and literature will be sent upon request

*Silver Picrate is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., 23, 201 (March), 1939.

JOHN WYETH & BROTHER, INCORPORATED, PHILADELPHIA

BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

"APPLIED PHARMACOLOGY." Hugh Alister McGuigan, Ph.D., M.D., F.A.C.P., Professor of Pharmacology and Therapeutics, University of Illinois, College of Medicine. The C. V. Mosby Company, St. Louis, 1940.

This is a comprehensive, well written textbook on pharmacology in which, as the title implies, special emphasis is placed on the clinical application of pharmacology knowledge, a viewpoint welcome to both students and physicians.

Earlier topics deal with theories and modes of pharmacological action, classification of drugs and pharmacopeial preparations. The systems of the body are presented in an orderly sequence, each preceded by a short resume of the anatomy and pharmacology of the various organs. Detailed description of drugs acting on the system under discussion follows, with careful consideration being given to the therapeutic application of these drugs. Toxicology is briefly but adequately discussed. Finally, considerable space is devoted to a group of miscellaneous but important therapeutic agents, among them biologicals, metals, vitamins, and hormones. At the conclusion of each section there is a list of preparations with official dosages and a bibliography.

This book contains a wealth of information not only in the field of pharmacology but in the allied subjects of physiology and biochemistry. The statements are accurate and are supported by adequate pharmacological evidence. The author in his preface states that "an attempt has been made to connect physiology, biochemistry and pharmacology with clinical application" and in this difficult task he has been quite successful. This book is recommended as an excellent source of reference in the subjects of pharmacology and therapeutics.—G. N. Barry.

"SULFANILAMIDE AND RELATED COMPOUNDS IN GENERAL PRACTICE." Wesley W. Spink, M.D., Associate Prof. of Med., Univ. of Minn. Med. School. Price \$3.00, Pp. 256, Illustrated. The Year Book Publishers, Inc., Chicago, 1941.

Sulfonamide therapy, so rapidly developed in the past few years, has not only resulted in phenomenal progress in the control of disease, but its occasional untoward action, often leading to grave pathological changes, has caused the alert, conscientious physician to prescribe with a prayer while awaiting more definite guidance.

Though new compounds in this group are being tested and recommended from month to month, and there is much to be desired in the way of additional knowledge, it is time for the average doctor to take an inventory and find out just what is in stock.

Fortunately those who have had the opportunity to study the intricate problems connected with sulfonamide therapy in the laboratory, at the bedside, and in the autopsy room, have learned much. The combined results of these observations carefully assembled, afford a fairly adequate guide for the general practitioner to date.

In Dr. Spink's book, this data has been assembled in such a concise and comprehensive manner, that it readily becomes a practical guide to the busy doctor. Separate chapters are devoted to each of the various members of this group, including sulfaguanadine and sulfadiazine.

There are three valuable tables: Table 1 shows the preferential use of sulfonamide compounds in more than 50 diseases and conditions in which they should be of value. Table 2 lists diseases and conditions in which the use of the sulfonamides is doubtful, giving their preferential use if trial is desired. Table 3 names the

diseases and conditions in which these compounds are of no value.

Indications for therapy, choice of compound, dosage, methods of administration and observation, precautions and safeguards, are presented in plain terms. It may be said that the book contains a surprising store of information made readily available for the doctor who must read and run.

The arrangement of the subject matter with a comprehensive index, makes it possible for the reader to locate promptly the answer to any answerable question concerning the use of the sulfonamides.—Lewis J. Moorman.

"PLAGUE ON US." Geddes Smith. Price \$3.00. Pp. 365. New York: The Commonwealth Fund, 1941.

This is a beautifully bound, well written book, telling the tragic story of man's struggle against disease. Though it was written by a layman, primarily for laymen, it is a book every physician should read. The text has the ring of authenticity and each chapter is followed by references and sources.

There is a straightforward foreword with a frank statement of methods, limitations, obligations and the following warning against presumptuous thinking: "Though laymen are the stuff of which epidemics are made, they shouldn't meddle with epidemiology, which is an exacting science."

These two paragraphs from the short but intriguing prologue will give the reader an idea of the book's appeal, which leads him on from one chapter to the next: "Finding a mouse dead in a cage in New York, a man in a white coat knows that a certain black man in Africa could not have had yellow fever. Pestilence used to be something visited on sinners by the angry gods; now it is visited also on mice and rabbits by men in search of knowledge. These men have traced the agents of disease through the stomach of the flea, the rectum of the louse, the spittle of the droning mosquito. They brew in their test-tubes lethal stuff that they cannot see, and contrive to make it their servant in keeping death at bay. Nothing is too small for them, nothing (save influenza, perhaps) too large.

"The black plague that ravaged Europe is all but gone. The yellow fever that made men pray for winter is all but gone. The malignant choking death that struck children is all but gone. Purging fevers no longer haunt the water that cities drink. Cheeks that would once have been pitted with smallpox are smooth and fresh. Men and women die old."

As the reader, with a knowledge of modern medicine, follows the author through the shocking accounts of pestilential scourges which have staggered the course of civilization and overwhelmed doctors and laymen alike with dire confusion, he is sadly conscious of the fact that the perpetuation of man on the earth is not due to medical efficiency, but to biological adaptation with innate and acquired immunities. Certainly medicine can make few legitimate claims along this line until after Pasteur. Obviously much light came through empirical observations and many communicable diseases were partially controlled through this knowledge as admitted by the author, but he makes clear the fact that even though we have accomplished much more through our growing knowledge, namely the bacterial origin of disease, induced immunity, specific therapy, sharpened rules for quarantine and isolation, we still have far to go.

While the author recounts the great advances medicine has made and gives credit where credit is due, admitting

the prevention and control of many communicable diseases with the saving of millions of lives, he shows that the danger of the recurrence of old plagues or the appearance of new ones should not be overlooked.

Only occasionally will the medical reader sense the author's lack of medical knowledge. His understanding, insight and interpretation is remarkable for a layman.—Lewis J. Moorman.

NUTRITION AND DIET IN HEALTH AND DISEASE: By James S. McLester, M.D., Professor of Medicine, University of Alabama, Birmingham, Alabama. Third Edition, Entirely Rewritten. 838 pages. Philadelphia and London: W. B. Saunders Company, 1939. Cloth, \$8.00.

This text has been largely rewritten, and the clinical sections have been expanded. The first section deals briefly, but adequately, with the fundamentals of metabolism and nutrition. The section on food products contains many suggestions of interest to the clinician and dietitian. The third section now includes brief considerations of dietary problems in infancy and pregnancy. The main portion of the book, which is concerned with nutrition in disease, is authoritative and fairly inclusive. The material is arranged according to diseases of various systems. Menus and diets are given for numerous conditions. The tabular material in the appendix is not as extensive as in certain contemporary texts which provide considerable detailed information for the dietitian and nutrition expert. The general impression of the reviewer is that Dr. McLester's text affords a very readable exposition, which is well suited to the needs of medical students and physicians.—M. R. Everett, Professor of Biochemistry.

"CANCER." Distributed Through the Oklahoma State Cancer Committee in Collaboration with The Oklahoma State Health Department and The Oklahoma Division of the Women's Field Army of The American Society for the Control of Cancer. Oklahoma City, Oklahoma, 1940.

This committee, together with many contributors, have made this publication one which meets the demands in a manner doomed to be most heartily received by all of the medical profession, regardless of the particular field in which he is working. Recent trends in the campaign to "fight cancer with knowledge" are fully exploited.

The chapter on "Historical Trends of Cancer," by Eleanor J. MacDouald, A.B., (Statistician, Division of Adult Hygiene, Massachusetts Department of Public Health) is not only extremely interesting but most informative. All of the major steps in connection with every phase of cancer study are briefly mentioned.

Salient thoughts of such great authors as David A. Welch in his chapter on "The Life of Cancer," Egyptian medical theories 1500 B.C., descriptions by Nueveh of 800 B.C., Hippocrates who introduced the term "cancer" and carcinoma," Gaylen Morgagni and others on down through pages of history to include later, but by no means least, the work of Sam W. Gross, John Howard, Peyton Rous, Clarence C. Little, Maude Slye, Horsley, Mikulicz, C. H. Mayo, Madame Marie Curie, Willy Meyer and many others, equally important in the development of history of cancer, are mentioned along with their accomplishments.

The chapter on the development of the "Present Trends in Cancer Research," by James B. Murphy (Member of the Rockefeller Institute in charge of Cancer Research) answers many questions which come to the thinking physician's mind when he is confronted with cancer. All important trends are briefly but adequately described, altogether giving a comprehensive idea of what is really going on in connection with cancer research today.

"Epidemiological Aspects of Cancer," by Herbert L. Lombard, M.D. (Director, Division of Adult Hygiene,

Massachusetts Department of Public Health), throws considerable light on factors such as personal habits, history, individual traits, etc., and their relation to cancer.

"Biopsy in Relation to Tumor Diagnosis," by Shields Warren, M.D.; "Symptoms and Physical Examination: Cancer in General," by Joseph C. Aub, M.D.; "Principles of Treatment," by Philemon E. Truesdale, M.D., and other technical subjects such as "The Treatment of Malignant Disease by Irradiation," by George W. Holmes, M.D., are nicely condensed into practical, workable form suitable for guidance for any practicing physician.

Cancer in various anatomical parts of the body, such as mouth, stomach, thyroid, etc. are briefly discussed by men foremost in each particular specialty. In most of these, brief history, symptoms, diagnosis, pathology and treatment are adequately outlined.

Short chapters on "The Care of the Patient with Advanced Cancer," "Relief of Pain by Neuro-surgical Methods," "The Massachusetts Cancer Program," and "The American Society for the Control of Cancer" are very appropriately included in the last pages of the book.

In short, this book is to the doctor what we have attempted to put in our lectures for the laity, in our "fight cancer with knowledge" campaign of recent years. Any doctor, whether he be a public health official, a hospital administrator, a general practitioner, a surgeon, an x-ray therapist, a pathologist, or a specialist in any other field, will find this not only an interesting review, but also in my opinion helpful as a reference.

To teach a subject is to know a subject, and in this connection there are "Suggestions for Talks on Cancer to Lay Audiences" in the form of outlines, well worth while for one who gives talks in public and also a nice review which will be helpful for one in connection with instruction of his individual patients.—Hugh Jeter.

Commonwealth Fund Announces Fellowships Available for Review Courses

The following announcement has been received from Dr. Harry E. Haudley, Assistant Director of the Division of Public Health of the Commonwealth Fund:

The Commonwealth Fund expects to make available in 1942 to physicians in Oklahoma a limited number of fellowships for review courses in (1) medicine; (2) surgery; and (3) gynecology and obstetrics, to be taken at Tulane University Medical School. These fellowships will be made available to physicians who are graduates of class A medical schools doing general practice in the smaller communities over the state, preference being given to those under 50 years of age. Each of the courses during the coming year will be of six weeks' duration. Applications will be accepted for any one or two of the three courses. The first course will begin on Monday, January 5, 1942. Those awarded fellowships will receive a stipend of \$250 per month, plus a refund of tuition, and travel expense from Oklahoma to New Orleans and return. Interested physicians should make application directly to the Commonwealth Fund at 41 East 57th Street, New York City.

Chance of Eye Infection Great In Very Young

The eyes of young children are more susceptible to infection than those of adults, Constance J. Foster, Great Neck, N. Y., points out in Hygeia, The Health Magazine. Any child with inflamed or running eyes or swollen, sticky or red eyelids should be separated from other children and examined immediately, she says. So-called "pink eye" is highly contagious, and the wash cloth and towel of a child with this disease must be reserved for his own exclusive use. A slightly red eye may be an inflammation of the iris instead of merely a "cold in the eye," and can result in a serious visual loss unless promptly treated. It is most unwise to use home remedies in an eye before an accurate diagnosis has been made by a qualified specialist.

REVIEWS and CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments From
LeRoy Long Clinic

714 Medical Arts Building, Oklahoma City

STUDIES IN VIABILITY OF HUMAN SPERMATOZA.

Milton D. Klein, M.D., and Max Saroka, B.S., New York, N. Y. *American Journal of Obstetrics and Gynecology*. Vol. 42, No. 3, September, 1941, Page 497.

"A better understanding of the conditions affecting sperm motility indicates that the problem of sperm vitality is not so easily solved. Factors such as viscosity, osmotic pressure, pH, temperature, oxygen concentration, all affect the metabolism of the living spermatozoa and may individually or in combination affect their motility. Moench, for example ingeniously proved that sperms stored in the epididymis remain practically motionless due to lack of oxygen and a strongly alkaline medium, yet they are very much alive as evidenced by the activity in the ejaculate.

It would seem advisable therefore, when spermatozoa exhibit deficient or absent motility, to obtain additional information in regard to their vitality.

The procedure to be described is based on the property of living spermatozoa, like all living cells, to utilize available free oxygen. Methylene blue is used as an indicator because of its ready conversion to colorless leucomethylene blue when deprived of oxygen, and because it is non-toxic. Thus, when methylene blue is added to spermatic fluid in an anaerobic preparation, the available oxygen is utilized by the living spermatozoa. The loss of this oxygen from the preparation causes the methylene blue to change to its colorless state. On the other hand, if the spermatozoa are dead, the dye maintains its blue color because there is enough free oxygen present to prevent any change to the leuco base."

The technique of the test is carefully given.

"Another series of controls should also be made with seminal fluid presumed to be inadequate as to the number of spermatozoa and percentage of abnormal forms. Unfortunately these specimens were not available for study. It is likewise possible that the rate of conversion of the methylene blue to its colorless base may be significant of the degree of viability of the spermatozoa. These are problems worthy of further investigation.

COMMENT: A simple method of determining sperm viability is urgently needed in the care of sterility.

The test outlined above will require considerable additional investigation and clinical application before it can be properly judged but its simplicity and the logical reasoning of the authors leads one to have hope for it. —Wendell Long.

A TWENTY-FOUR HOUR PREGNANCY TEST. Robert T. Frank, M.D., and Rose L. Berman, B.A., New York. *American Journal of Obstetrics and Gynecology*, September, 1941, Vol. 42, No. 3, Page 492.

"1. A simple, inexpensive pregnancy test requiring only 24 hours is described. Its accuracy is equal to the original Aschheim-Zondek and Friedman tests.

2. Two female white rats, weighing 50 Gm. each, are required for each test.

3. Five cubic centimeters of fresh urine are injected at 10:00 A.M. and 4:00 P.M. of the same day; the animals are autopsied at 9:00 A.M. of the next day.

4. The readings are made macroscopically and with ten loupe enlargement by transmitted light."

The authors feel that a pregnancy test, to be of real value, must be correct in 98 to 99 percent. To date in their laboratory the Friedman tests have reached a total of 3,063 with 0.03 percent false positives. Their present data, based on 3,063 Friedman tests, showed that of 2,116 rabbits used in "positive" urine, 134, or 6.3 percent, proved refractory. This is used to emphasize their insistence that it is essential to use two rabbits for each Friedman test.

Since rabbits are relatively expensive, require space for housing, and since it is necessary to isolate them for three to four weeks between tests, the authors have now evolved a technique which reduces the cost to about one-fourth of the rabbit test but likewise shortens the time from 48 to 24 hours.

"The test which we present, in essence, is a modification of the Aschheim-Zondek test, two rats being employed instead of five mice, with reduction in time from 96 to 24 hours."

They report that 223 tests have been performed by the 24 hour technique and of these 114 gave negative and 117 positive results.

In 98 cases, parallel Friedman tests were performed because the clinical course could not be followed.

"In the interim, efforts have been made to shorten the test still further. By trial it was found that a positive test could be obtained in eight hours, the 5 c.c. of urine being injected at two four-hourly intervals. Twenty-seven urines from pregnant patients gave 26 positive reactions. The sole negative was the urine of a patient, 32 weeks pregnant, who twice gave negative readings, with a week intervening between the tests, although the 24-hour readings were positive. From this it would appear that when the indications are urgent, a positive test obtained after eight hours may be relied upon."

COMMENT: There can be no question as to the tremendous value of the highly accurate biological test for early pregnancy.

The Friedman test has been extensively employed with satisfaction but its expense and the length of time necessary for the test have been objections.

The test here reported is said by these authors to be as accurate as the Friedman test and to take less time. When such a statement is made by Dr. Robert Frank, one of the most careful workers in this field, it must be taken with grave consideration and particularly so when their clinical experience has justified this statement.

It would, therefore, be apparent that this new biological pregnancy test devised by Frank and Berman will probably be a valuable addition to the pregnancy tests and may even supplant the Friedman test in common usage. —Wendell Long.

A STUDY OF THE OVARIES AND ENDOMETRIUMS OF PATIENTS WITH FUNDAL CARCINOMAS. Harold O. Jones, M.D., and John I. Brewer, M.D., Ph.D., Chicago, Ill. *American Journal of Obstetrics and Gynecology*, August, 1941, Vol. 42, No. 2, Page 207.

This is a careful report of six-eight instances of carcinoma of the fundus of the uterus with the following summary and conclusions by the authors:

“1. Nineteen of the 68 patients studied were premenopausal. Eleven of these had cyclic menstruation. Nine of these 11 patients were operated upon between the fourteenth and twenty-fifth cyclic days. Eight possessed functioning corpora lutea. The two operated upon before the fourteenth cyclic day had corpora lutea of the previous cycle.

2. The corpora lutea were normal even in those instances in which all of the endometrium was involved in the malignant change.

3. The portion of the endometrium not involved in the malignant change in those patients with corpora lutea was normal and had responded to ovarian stimulation in a normal manner.

4. Cystic glandular hyperplasia was not present in any of the patients with cyclic menstruation.

5. Cystic glandular hyperplasia was found in two of the 68 patients comprising this study.

6. Cystic changes in the ovaries were found in eight premenopausal patients and in one postmenopausal patient.

7. Ovulation and corpus luteum development progressed normally, even in those patients with cystic ovaries.

8. The cystic changes in the ovaries thus were demonstrated to be incidental and without significance.

9. In patients with endometrial carcinomas, the ovaries may function normally and the uninvolved portion of the endometrium may be normal and respond normally to ovarian stimulation.

10. Thus, the etiologic significance of hyperestrinism or the unopposed action of estrin in endometrial carcinoma is not demonstrated in the patients of this report.”

COMMENT: There has been much speculation and study about a possible relationship between hyperestrinism, hyperplastic endometrium, and adenocarcinoma of the fundus uteri. Reports, notably by Meyer, Taylor, and Novak, call attention to hyperplastic endometria in the same uteri of postmenopausal patients who had adenocarcinomas of the fundus uteri. It has been their logical assumption that there was a correlation between hyperplastic endometria, hyperestrinism and adenocarcinoma of the fundus uteri. In light of these reports and studies, the present article is of great value and has a practical bearing upon the treatment of patients with hyperplastic endometria after the menopause as well as the care of patients with adenocarcinoma of the body of the uterus.—Wendell Long.

MORBID INFLUENCES IN INTESTINAL OBSTRUCTION AND STRANGULATION. Ian Aird, Ch.M., F.R.C.S. *Annals of Surgery*, September, 1941, Vol. 114, No. 3, Page 285.

In spite of phenomenal progress in other branches of abdominal surgery, the mortality of acute intestinal obstruction remains high. From 1900 until 1930 the mortality level was almost unchanged and in the last ten years the disease has remained a challenge both to the surgeon and to the experimentalist.

As a direct result of animal and clinical experimentation, two powerful new weapons have been added to our therapeutic armamentarium—the nasal suction tube and the intravenous saline drip. Powerful as these weapons are, it is wise to realize their limitations. Nasal drainage and intravenous saline are beneficial in most cases of acute intestinal obstruction, and may be continued with benefit for days in simple occlusion of the bowel, for example, and in adynamic ileus. However, in cases of strangulation, the need for operative relief is much more urgent. It is often difficult to distinguish simple occlusion from strangulation clinically, and to persist with conservative measures in a case of internal strangulation is to court disaster. We have all seen numerous cases of adhesive obstruction, treated by suction drainage saline infusion for a day or more, only to present at operation a strangulated and devitalized bowel; 24 hours of delay may mean the difference between via-

bility and gangrene. It is conceivable that, while the present vogue for prolonged preoperative decompression and saline administration may be expected to reduce the mortality of simple intestinal occlusion, it may actually lead to an increase in the mortality of internal strangulation.

Even in simple occlusion of the bowel, patients still die with sufficient frequency to raise the suspicion that we have something yet to learn of the lethal mechanism of the disease. It is possible that administration of saline is too haphazard and inexact; dosage formulae, such as those elaborated in the surgical department at the University of Michigan, certainly merit wider adoption. Whatever the explanation, frequently a patient suffering from intestinal obstruction is lost in spite of preoperative nasal suction drainage, in spite of forced intravenous salines, and in spite of an apparently successful operation. In these fatal cases, the chloride content of the blood may be at or near normal level just before death. One is forced to the conclusion that depletion of water and chlorides is not invariably the sole lethal factor.

Intestinal obstruction is not a single disease, but a group of diverse diseases; a theory of the cause of death in duodenal occlusion is not applicable to volvulus of the sigmoid colon. The author, therefore, studies each variety of obstruction separately, believing that with a more exact pathologic classification the more likely he was to draw accurate observations and deductions.

Accordingly in his experiments which were extensive and carried out at Washington University in St. Louis, Mo., and also under the direction of the late Sir David Wilkie in Edinburgh, he first set down the following classification:

A. Simple Occlusion of the Lumen:

- (1) High occlusion of the small intestine.
- (2) Low occlusion of the small intestine.
- (3) Colonic occlusion.

B. Closed Loop Obstruction:

- (1) Sterile loops.
- (2) Heavily infected loops.
- (3) Mildly infected loops.

C. Strangulation:

- (1) Short loops.
- (2) Medium loops.
- (3) Long loops.

It must be remembered that pure forms of obstruction, though easily produced in the experimental animal, are relatively rare in clinical practice. In strangulated hernia, for example, the strangulated loop is also a closed loop; the bowel above the strangulation is occluded at the hernial ring, just as in low small intestine obstruction; ultimately, the whole small intestine dilates above the obstruction, and the vomiting of high obstruction is superadded upon the effects of a relatively low obstruction; finally, after relief of the strangulation, the affected loop of bowel may fail to recover its peristalsis, and we may have strangulation, small intestine obstruction, closed loop obstruction, and adynamic ileus all present together in a single case. Of these various forms, one usually predominates, and attracts surgical attention before the other forms have time to exercise their full pathologic effect. In rapidity of effect, strangulation takes precedence over closed loop obstruction, closed loop obstruction over simple occlusion of the lumen, and high occlusion over low occlusion.

The author's conclusions are as follows:

In high small intestine occlusion, the cause of death is dehydration, hypochloremia, alkalemia, and azotemia. These can be effectively controlled by nasal suction drainage and forced intravenous saline by drip. Operation may be delayed, and conservative measures continued for many days before operative relief of the obstruction, provided the cause of obstruction is known, and provided the presence of a strangulating element can be definitely excluded.

In untreated cases of low small intestine occlusion,

whether in the experimental animal or in man, death does not occur, as a rule, until three or even four weeks after the onset of obstruction. In these cases, suspended absorption of water, salts, food materials, and other constituents of the intestinal content is sufficient to explain death. Gross congestion of the bowel is sometimes considerable before death in these cases, and leads in some, but not in all, animals to depletion of the blood volume. Perforation of the distended bowel and peritonitis is a relatively frequent cause of death in the animal or man whose occlusion remains unrelieved by operation.

Today, the deaths from low small intestine occlusion are nearly all postoperative deaths. The toxic effect of sudden relief of a long-continued distention of the bowel has been demonstrated by experiment.

In occlusion of the colon, perforation and peritonitis are responsible for death in most cases. In long-continued colonic occlusion, the same factors probably operate as operate in low small intestine obstruction.

In closed loop obstruction, the cause of death depends upon the infectivity of the contents of the loop. In the case of the heavily infected closed loop, death is due to perforation and peritonitis. In the mildly infected closed loop, the same morbid influences are present as in low small intestine occlusion. Splanchnic congestion is usually more serious in closed loop than in simple occlusion.

In strangulation of short loops of bowel, death is due to perforation and peritonitis.

In long loop strangulation, death is due to diminution of the effective circulating blood volume, as a result of blood loss into the lumen and wall of the strangulated intestine, and into the peritoneal cavity.

In strangulation of loops of medium length, the cause of death appears to be the absorption of toxins. In the early stages of strangulation, this is by way of lymphatic routes, later by way of the peritoneal cavity.

The depressor effect of the sudden relief of any form of intestinal distention is seen in an exaggerated form upon the sudden relief of a long-continued strangulation.—LeRoy D. Long.

EYE, EAR, NOSE AND THROAT

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THE DIAGNOSIS AND CONSERVATIVE TREATMENT OF BRONCHIECTASIS IN CHILDREN. Beryl E. Barsby, and Richard E. Bonham-Carter. *Archives of Disease in Childhood*, volume 16, No. 86, page 95-104, June, 1941.

Diagnosis of bronchiectasis is made by bronchography. In bronchography it is essential that the bronchi should be as empty as possible before introducing oil. This is achieved by postural drainage 18 hours daily for one week. If this is not sufficient, drainage is continued for a further two or three weeks, or until the amount of sputum becomes negligible.

The injection of oil is carried out while the patient is fasting. Local anesthesia is only advisable after the age of ten years, and even then, only in isolated cases. In general, the oil is injected under general anesthesia, induced with ethyl chloride and continued by ether inhalation. There is a very simple apparatus for introducing the oil into the bronchi: a tongue clip and a ten cc. record syringe to which is attached one and one-half inches of a 0.10 inch bore rubber tubing.

When the patient is fully anesthetized, he is placed in the sitting position with the head held upright and chin forward. The patient's trunk is inclined towards the affected side at an angle of 25 degrees to fill the right bronchial tree, and at 45 degrees for the left.

The tongue is then grasped with a tongue clip applied one inch from the tip of the tongue, and is held very firmly forwards, throughout the whole procedure. The rubber catheter is then inserted for a half to one inch into the nostril of the side which it is required to visualize. One and one-half to two cc. of the iodized oil is introduced. The patient should be kept in this position for 15 to 30 seconds until the typical gurgle of the solution is heard as it passes between the cords. The success of brouchogram now depends upon the accurate knowledge of the bronchial anatomy. There are various positions into which the patient is brought in order to permit the oil to invade special regions of the bronchial tree.

The authors advocate postural drainage for the treatment of bronchiectasis in children. The technique of postural drainage has been placed on a sound footing by Nelson (1934). Yet, in many cases, the postural drainage is incorrectly used. The upper lobes in children can be drained by allowing them to run about; for it is difficult to keep the child in the "Cleopatra position." The middle lobe, ventral and anterior basilar bronchi are drained so that the child should be on its back on a flat bed with the chest raised 18 inches to two feet. In this position it is essential that the feet be fixed to the foot of the bed. To drain the axillary basilar, posterior basilar and dorsal bronchi the child should be placed on his face over a tipping device with the trunk at right angles to the legs. A wedge should be placed over the affected side.

The secretions are viscous, so viscous in fact that it is necessary for the patient to spend 18 hours daily in the requisite postures while in the hospital, and the entire night when at home. It is always advisable to give a liquefying expectorant during the course of postural drainage.

DISCUSSION ON CHEMOTHERAPY, SEROTHERAPY AND HAEMOTHERAPY IN OTITIS AND LARYNGOLOGY. L. E. H. Whitby et al. (Section of Otolaryngology of the Royal Society of Medicine). *Proceedings of the Royal Society of Medicine*, vol. 34, page 667-678, August, 1941.

The principles for the use of sulfonamide drugs are the same in this region of the body as in any other. Firstly, it is essential for the infecting organism to be sensitive to the drug employed. In general, acute infections always respond better than chronic ones and early stages are more amenable than late. Much of the failure of sulfonamide chemotherapy is due to the neglect of appropriate bacteriological examinations.

The second principle is that the drug must reach an effective level and be maintained there until a full clinical result is obtained. If it takes longer than about seven days to achieve an obvious clinical result, none can be expected with the drug being used. An effective level is only maintained by regular four-hourly dosages and this means that the hours of night must not be omitted.

The third principle is to be sure that the drug is called upon to act in a favorable medium and position. These drugs are greatly inhibited, if not quite inactive, in a frankly purulent medium. Pus is the province of surgery not of chemotherapy, and the timely combination of the two can achieve wonders. Infections in bone are usually little affected by sulfonamide drugs.

Recent statistical analyses leave no doubt that the early and adequate administration of sulfonamide drugs in acute otitis markedly reduces the incidence of mastoid complications and the number of cases which progress to a point requiring paracentesis. However, one should not forget that there were no serious epidemics recently of diseases usually complicated with otitis, and the value of sulfonamides in such types of otitis media is still to be evaluated. Yet, even allowing for variations in clinical material, one may conclude that the evidence is

unmistakable of the powerful effect of chemotherapy in acute ear disease.

Whatever drug is used it must be given early and in full dose, and should be continued from some days after the disappearance of symptoms. The drug is given orally in doses to maintain a blood concentration of 10-15 mg. percent. For a quick effect the loading dose needs to be large. The case which does not recover on full doses within seven days almost invariably needs mastoid drainage.

One of the most satisfactory results of chemotherapy is the way in which the sulfonamide drugs have altered the prognosis in meningitis of all types. But when one turns to chronic aural suppuration the results of chemotherapy have been disappointing. This is because the infection has involved bone. Nevertheless some of the more troublesome secondary organisms, such as *B. proteus* and *B. pyocyaneus*, can often be eliminated. Skin infections from the constant discharge can be greatly influenced by the local application of sulfanilamide with a moist saline dressing.

With nasal sinusitis the reported results have been variable and on the whole disappointing. When the mucosa is merely in a state of congestion a good result can be anticipated. When pus formation is advanced or bone becomes involved, then not much benefit can accrue.

As to tonsillitis and adenitis, there is generally a clinical impression that when a sensitive organism is the infecting agent the course of the disease is shortened and the complications reduced. No one nowadays would fail to prescribe sulfanilamide in an acute streptococcal tonsillar infection. Too early cessation leads to recrudescence. Tonsillar carriers of streptococci are not benefited. The local application of sulfonamide sprays is without a scientific basis. There is no evidence that sprays are effective, nor is benefit to be expected from the application of the drug to intact mucosa.

The results from these drugs vary from person to person. The variations have not been explained fully. It is quite certain that one strain of an organism may be more sensitive than another. There is also the make-up of the individual and his general resistance, for the final elimination of the infection rests with the body and not with the drug. Then there is the vexed question of the variation in amount of acetylation of the drug; one person may acetylate and render inactive 75 percent of the drug administered, another only ten percent.

In serotherapy the basic principles are: specificity, potency, and early administration; closely related are optimal route and adequate dosage. In the nose and throat serotherapy is still of primary importance in the treatment of active diphtheria, and as an adjuvant to chemotherapy it may play a role in acute pneumococcal, streptococcal and staphylococcal infections. The diphtheria bacillus is not susceptible to chemotherapeutic agents. In pneumococcal infections the results of sulfa-pyridine therapy are so good that only complications give scope for serotherapy. Such complications are bronchopneumonia, pneumococcal sepsis, or meningitis. Treatment with serum necessitates accurate preliminary typing of the infecting pneumococcus, and the use of its homologous serum. It is to be regarded as an adjuvant of chemotherapy.

Streptococcal autotoxins are available for use in infections with the hemolytic streptococcus. In mild cases, chemotherapy is sufficient, and serum therapy is not required. In scarlet fever complications the results of autotoxin treatment are striking and preferable to chemotherapy. Combined with the latter, complications are much less frequent.

For staphylococcal infections there is still no absolutely certain chemotherapy. The use of staphylococcal autotoxins is therefore of special importance. In all forms of specific serotherapy one should not forget a preliminary test for sensitivity to the foreign serum before administration of the serum to the patient.

In hemotherapy the use of blood and blood derivatives

constitutes a nonspecific remedy, but is seldom required in the field of otorhinolaryngology. If there is blood loss in the course of an operation, preoperative transfusion is indicated. Stored blood is now used in civilian practice. Small volume (250-300 cc) repeated transfusions with fresh blood are valuable as an accessory therapeutic measure in septicemia, especially in hemolytic streptococcal sepsis.

LINDAU-VON HIPPEL DISEASE; A REPORT OF FOUR CASES. Winchell McK. Craig, Henry P. Wagener, and James W. Kernohan. Rochester, Minn. *Archives of Neurology and Psychiatry*, vol. 46, page 36-54, July, 1941.

Lindau, in studying angiomatous nodules in cerebellar cysts, observed an association of this lesion with angiomatosis of the retina, otherwise known as von Hippel's disease, and by studying the latter disease he noted that it was not unusual to find a coincidental hemangioma of the cerebellum or of some other part of the nervous system. He considered it possible that the hemangioma of the cerebellum was only part of a systemic angioblastic disorder of the central nervous system often associated with a cystic pancreas, cystic kidneys and, more rarely, hypernephromas, tumors of the epididymis and angiomatosis of the liver. However, the complete complex is rare.

The authors describe four cases, which all had angioma of the retina and hemangioblastoma of the cerebellum. The first three patients recovered after drainage of the hemangioblastomatous cysts and resections of the mural nodule. There were no symptoms referable to hemangioblastoma of the spinal cord, or to similar tumors of the abdominal viscera.

Clinically, all four cases were interesting. One of them presents an excellent example of an early manifestation of the retinal angioma which in its more chronic phase may be confused with other types of lesions of the retina; in this instance it simulated tuberculous choroidoretinitis with periphlebitis. Only with the development of cerebellar symptoms and intracranial hypertension was the retinal lesion suspected of being a case of Hippel's disease. In the second and third case there was history of vomiting, headache, dizziness and hiccups with nystagmus and incoordination, which was definitely suggestive of a lesion in the posterior fossa. The angiomatous lesion of the retina was an indication of the nature of the tumor in the cerebellum.

The fourth case was the most interesting because of a long history and the progression of the disease. The papilledema and the early history of unsteadiness of gait due to herniation of the cerebellar tumor through the foramen magnum were overshadowed by the cerebellar signs. The patient had many pathological lesions all over the abdominal viscera, in view of which it is evident that any form of treatment was doomed to failure.

The typical uncomplicated angioma of the retina is easily recognized clinically and is always suggestive of an arteriovenous aneurysm. The characteristic ophthalmic picture is that of a greatly dilated artery, often beaded in appearance in its proximal portion near the disk and terminating distally in a somewhat round reddish angiomatous mass, usually situated in the extreme periphery of the retina. From this mass a greatly dilated vein returns to the optic disk in a variable course somewhat parallel to that of the dilated artery. In typical cases, the enlarged pair of blood vessels is always striking.

ROENTGEN THERAPY FOR INFLAMMATORY CONDITIONS OF THE EYES, EARS, NOSE AND THROAT. U. V. Portmann, Cleveland, Ohio. *Archives of Physical Therapy*, vol. 22, page 472-475, August, 1941.

Roentgen therapy is beneficial and is indicated for many inflammatory conditions. The effects are caused not by direct germicidal properties of the rays but by

indirect reactions created in the affected tissues, such as transient vasodilation, destruction of phagocytes, especially of lymphocytes with liberation of their antibody content. Thereby, a local autovaccination takes place. Since the objective of roentgen irradiation is to destroy some of the white blood cells in a localized area, small and moderate doses of irradiation are given. Either radium packs or roentgen rays may be employed, as their biological effects are similar. Most radiologists prefer the use of low voltage and light filtration administering from 50 to 100 roentgens per dose one or twice daily for a few days, or at intervals of several days, depending on the acuteness or chronicity of the inflammation and its response.

The most striking beneficial effect of radiation therapy for inflammatory conditions is the prompt relief of pain, which often occurs in a few hours. After this subjective improvement, fever begins to subside, swelling is reduced and the resolution takes place. The best results are obtained when treatment is given early, preferably within 12 hours of onset. If necrosis is imminent or abscess formation has begun, the results are not so striking. In such cases, drainage should be established surgically, and irradiation should be given to hasten healing.

The pain of acute conjunctivitis is relieved and the course of the inflammation is shortened by small doses of roentgen therapy given daily for a few days. Chronic inflammations such as tuberculosis also may be benefited. Vernal catarrh is being successfully treated by a few seconds of application to the everted eyelids with a bare glass radon bulb which emits a high proportion of beta rays. Chronic excessive lacrimation may be suppressed by heavy irradiation with either radium or roentgen rays localized over the lacrimal glands. The treatment should not be repeated too soon. Entropion of the eyelids causes the eyelashes to come in contact with the eyeballs. Epilation doses will relieve this condition.

Roentgen therapy may be successfully employed for the treatment of obstruction of the Eustachian tube caused by hyperplastic lymphoid tissue in the nasopharynx. This is to be preferred to catheterization of the tube. Yet, roentgen therapy is seldom beneficial if the obstruction is chronic and is caused by fibrous tissue. Furuncles in the external ear are easily treated and cured by irradiation. In the last few years there was an attempt made at radiotherapy of acute mastoiditis. Early irradiation of the mastoid may obviate the necessity for operation. Small doses are given once or twice a day for three or four days. Chronic otorrhea is also amenable to roentgen therapy.

Many other applications of roentgen therapy find their place in rhinology and laryngology for the treatment of furuncles, tonsillitis, laryngeal benign papillomas, inflammation of the salivary glands, etc. Radiotherapy should be among the first therapeutic procedures given consideration, and should be administered within 12 hours of the onset to obtain the best results.

INTRACRANIAL COMPLICATIONS DUE TO INFLAMMATIONS OF THE NOSE AND THE ACCESSORY SINUSES: A COLLECTIVE REPORT. I. Zoltan. Budapest. *Acta Otolaryngologica*, Stockholm, vol. 29, page 184-215, June, 1941.

The incidence of intracranial complications originating in the nose or accessory sinuses is extremely low. Schlitter found only three such complications among 2,200 cases of sinus operation. The author found 260 cases in the otorhinolaryngological literature of the 1924 to 1938 period. His statistics and analytical study is based upon 268 cases.

The spreading of the infection into the skull is made possible by the existing congenital bone defects, the blood vessels, lymphatics, structures of the orbit and the sphenopalatine fossa, or by an osteitis of the bony walls of the sinuses, or an osteomyelitis, a general sepsis, etc. The avenue of infection shows a great variety.

The intracranial rhinogenous complications may vary from an affection of the external surface of the dura to encephalitis and cerebral abscess. Rhinogenous brain abscesses are mostly lodged in the frontal lobe, and they develop after infection of the frontal sinus. The most frequent rhinogenous intracranial complication is meningitis, which may originate from any of the nasal sinuses.

The greatest care of the rhinologist should be to prevent such intracranial complications by careful surgical methods and technic. The danger zone of the nose is the area situated medially from the attachment of the middle turbinate. Manipulations in this danger zone should be strictly avoided. No operation should be made during an acute rhinitis. Hematoma or abscess of the septum should be widely opened without delay and an open treatment should follow the operation. Acute sinusitis should be treated conservatively; operation is indicated only by retention of pus or an impending orbital or intracranial complication. Endonasal operations should be performed with wide drainage towards the nose. In the presence of facial edema, particularly when an orbital or intracranial complication is suspected, radical operation should be performed with exposure of the affected sinus from without. On removing the sinus mucosa the injury of the bony wall should be avoided; therefore, the abrasion with sharp instruments is contraindicated.

Adequate attention should be given to all sinuses, for nothing is more dangerous than the operation on single sinus with neglect of other infected sinuses. All sinuses should be examined, even in cases of lesions of the nasal fossa. The author quotes a case of Risch, whose patient died after an operation on the nasal septum, and only the autopsy revealed that the source of purulent meningitis was an undetected suppurating ethmoid cell.

PLASTIC SURGERY

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THE USE OF SULFHYDRYL SOLUTION IN THE TREATMENT OF BURNS. Preliminary Report. Wilmont F. Pierce, M.D., Los Angeles, California. *American Journal of Surgery*; September, 1941, Page 434.

The author reports nine cases of burn in which he used a sulfhydryl solution as the agent for forming the protective eschar. In some of the cases he used hydro-sulphosol compresses on parts of the body and other agents on the other parts of the body. In this way he was able to compare the different kinds of treatment.

The eschar is usually well formed within 12 to 24 hours, subsequently the patient is treated by light cradle. The general treatment of food, fluids, shock, and so forth, does not vary particularly with other outlines of treatment.

The author believes that this new preparation is probably superior to the other agents that have been used in the treatment of burns. He believes that the incidence of skin grafting is lowered by this treatment. There is one objection to the plan and that is the odor which is particularly disagreeable.

The chemistry of the sulfhydryl solution is extremely interesting. There is some evidence to lead us to believe that wounds in the healing process need a large amount of sulfur.

COMMENT: It will be of interest to those who treat burns to try this new treatment. It is generally agreed that an ideal plan has not been developed. Each year we see some improvement.—George H. Kimball.

CARDIOLOGY

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THE PRESENT STATUS OF THE TREATMENT OF SUB-ACUTE BACTERIAL ENDOCARDITIS. Arthur C. DeGraff, M.D., New York; Condensed from the Bulletin of the New York Academy of Medicine.

Probably no disease has had as many remedies as subacute bacterial endocarditis. This fact alone indicates the futility of most of them. Non-specific supportive measures are of course always of some value. These include blood transfusions for anemia, supplemental vitamins and minerals and the use of drugs and physical measures for symptomatic treatment.

Of the specific measures, removal of the spleen has been advocated, but has never produced a cure in a proved case. Various chemical substances are used as specific agents, arsenic compounds in particular. Arsenicals stimulate the reticuloendothelial system with increased phagocytosis and production of immune substances. Four cures have been reported following the use of sodium cacodylate and significant improvement has been reported in a case in which ammonium heptachlorarsenate was administered.

Sulfonamide derivatives have now extensive trial. In one reported series of 120 cases in which sulfanilamide was used, five recoveries are said to have occurred. In a more recent series of 46 cases, however, there were no cures and it could only be said that the drug produced occasional lowering of temperature and temporary sterilization of the blood stream. The results with sulfanilamide therefore are not encouraging.

The particular chemotherapeutic problem involved deserves emphasis. To be effective in this disease, the drug must be able to permeate the fibrin mass which surrounds the organism and to remain in the blood stream in sufficient concentration and sufficiently long to permeate the fibrin and kill the organism without adversely affecting the patient. The sulfonamide derivatives so far used have been demonstrated *in vitro* to be unable to permeate blood clots. This is in accord with the clinical observation of their inability to destroy the bacteria in the fibrinous valvular lesions of subacute bacterial endocarditis.

Some observers believe, however, that eradication of the infection is nevertheless at least theoretically possible: "In the course of time, all of the pre-existing thrombi should become organized into fibrous scar tissue while all newly formed thrombi in a patient under active treatment will be impregnated with the drug. Thus, conditions will tend to become less and less favorable for growth of the organism if an effective drug is taken continuously over a long period of time." Whether or not this theory is correct has not yet been clinically demonstrated.

An ingenious attack on the problem of permeating the fibrin clot is the technique of giving sulfapyridine and heparin, the latter being used to arrest the deposition of platelets and fibrin. The blood level of sulfanilamide is raised to 5 mg. per 100 cc. for four to seven days and then heparin is given by uninterrupted intravenous drip day and night for 14 days. To date, however, I know of only one report which has cited favorable results from this procedure.

Another recently proposed method is the combination of intensive treatment with a sulfonamide derivative plus the raising of the body temperature either by typhoid-paratyphoid vaccine, or the use of hyperthermia by physical means. The experimental basis for this work was the demonstration that the effectiveness of sulfonamide derivatives is increased considerably by ele-

vation of temperature. Seventeen patients have been reported treated by the technique of giving sulfapyridine and typhoid-paratyphoid injections and five have apparently recovered. Only three of these cases, however, were clearly cases of *Streptococcus viridans* bacteremia. As in so many other reported series, all of the recoveries were among the first cases studied and no recoveries occurred among subsequent cases. Sixteen patients have been reported treated by the technique of chemotherapy (using sulfanilamide or sulfapyridine) with physical induced elevation of the body temperature. Two of these recovered, but only one was due to *S. viridans*.

Such is the present status of the treatment of subacute bacterial endocarditis. No form of therapy which at present seems to offer some hope of cure in a small proportion of the cases has received the really crucial test of new therapeutic procedures, namely confirmation of the results by other investigators. At best all we expect at the very outset from these newer forms of treatment is that an occasional patient may survive, whereas, there was an almost uniformly fatal ending.

FACTORS INFLUENCING IMMEDIATE MORTALITY RATE FOLLOWING ACUTE CORONARY OCCLUSION. R. M. Woods, M.D., and A. R. Barnes, M.D., Rochester, Minn. Digest of Treatment, September, 1941.

Death does not always occur immediately following an acute coronary occlusion. The purpose of this paper is to investigate the factors which lead to death during the immediate period after the attack, i.e., during the attack itself or in the first six weeks thereafter.

A study was made of 128 cases of acute coronary occlusion which were selected at random. Among these, the immediate mortality rate was 46.9 percent. Among the patients under 50 years of age, the immediate mortality rate was 28.1 percent; among those between 50 and 59 years of age, 41.7 percent; among those between 60 and 69 years of age, 57.1 percent and among those 70 years of age or more, 84.6 percent. The immediate mortality rate was therefore higher among the older than among the younger patients. It was also higher among women (75 percent) than among men (41.7 percent).

Of the patients who had previous angina pectoris, 40 percent died within the immediate period and 39.7 percent lived. Of the patients who had evidence of an anterior apical infarct, 42 percent died within the immediate period; the same percentage held for those who had evidence of a posterior basal infarct.

Certain complications of acute coronary occlusion influence the immediate prognosis to a great extent. In one-third of the cases in which death occurred within the immediate period, congestion of the lungs, as evidenced by the marked and rapid appearance of pulmonary edema, was present. Congestion of the lungs was not observed among the patients who survived the acute attack. Congestion of the liver, as evidenced by a rapid and progressive enlargement, was present in 15 percent of the cases in which death occurred and was not present in any of the cases in which death did not occur. Pericarditis was definitely recognizable clinically in 10 percent of the cases in which death occurred within the immediate period and in 1.5 percent of the other cases.

The presence of ventricular extra systoles following acute coronary occlusion is generally considered to be an ominous sign. In the present series, occasional ventricular extrasystoles (i.e., one per 21 or more normal beats) developed in three cases, and all of these survived. Ventricular premature contractions of moderate frequency (i.e., one per 11 to 20 normal beats) occurred in three patients, all of whom survived. Very frequent ventricular extrasystoles (i.e., one per two to ten normal beats) occurred in 17 patients and of these, all but three died.

Sudden death during the attack occurred in 13 cases

in which coronary occlusion was the only finding at necropsy. Such deaths are difficult to explain except on the basis of disturbance of rhythm, such as ventricular fibrillation to which summation of ectopic beats may have given rise. Nineteen other patients who died within the immediate period may also have died of ventricular fibrillation which had a delayed onset. In nine of these cases there was electrocardiographic evidence of very frequent ventricular extrasystoles which continued to increase in frequency.

Massive pulmonary embolism was the immediate cause of death of ten percent of all patients who died within the immediate period but did not occur among the patients who survived. The source of these pulmonary emboli was not mural thrombi in the heart but thrombi in the iliac vessels. The convalescent period following the acute coronary occlusion is ideal for the formation of thrombi in the iliac vessels because the decrease in blood pressure which follows acute coronary occlusion and the complete rest in bed and inactivity on the part of the patient facilitates the formation of thrombi, particularly within the iliac veins.

Fifteen of the group of 60 patients who died within the immediate period had severe myocardial failure after the onset of the acute coronary occlusion and myocardial infarction. In four cases cerebral thrombosis brought about the fatal termination and in two immediately fatal cases, rupture of the heart with cardiac tamponade was the cause of death.

In comment on this study, it is apparent that it is rational and probably important to administer quinidine sulfate to any patient who has suffered acute coronary thrombosis and exhibits frequent ventricular premature contractions. Furthermore, the incidence of death from massive pulmonary embolism in this group of cases is appallingly large and it is of interest to know that the thrombi arose in the iliac veins and not in the heart itself. This suggests strongly that much more attention should be given to measures to sustain and improve the return venous flow in the legs of patients who are at rest following acute coronary thrombosis.

ORTHOPAEDIC SURGERY

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RADICULALGIAS REBELDES EN ORTOPEdia (Persistent Radicular Pain in Orthopaedic Conditions). A Barba Inclán. Cirugía Ortopédica y Traumatología (Habana), VII, 124, 1939.

The author presents some observations on persistent radicular pain, or, as its name implies, pain from the spinal nerve roots, due to irritation, compression, or inflammation.

The steadily increasing frequency of this syndrome, its diagnostic as well as prognostic difficulties, its varied and sometimes dangerous treatment, and the infrequency of its incidence in his country, have induced the author to describe four clinical cases treated by him in the National Police Hospital. Three patients had low or sacrolumbar nerve root pain, and one had pain in the cervical region.

The three cases with low-back pain presented some degree of scoliosis with radiation to the sciatic nerve; one was syphilitic (arachnoiditis), another rheumatic with an evident spondylitis and presumably, also, arachnoiditis, while the third had suffered a traumatic lesion, followed by hypertrophy of the transverse apophysis of the fifth lumbar vertebra and sacro-iliac subluxation.

The fourth case, with radicular pain in the cervical region, presented what appeared to be an infectious

arthritis with a possible focus of infection in the vertebrae, but without bone lesions visible in the roentgenograms.

Conservative treatment was employed in all four cases. Besides continuous traction and strict immobilization, medical treatment— injections of paragonol gardier, and the use of solicylate, iodine, sulphur—physiotherapy, and hydrotherapy were also employed. Corrective manipulation without anesthesia was carried out in patients with posttraumatic radicular pain.

A great many laboratory tests were carried out. In three cases, the x-ray examination was preceded by a lipiodol injection into the spinal canal.

Though all the patients at present appear cured, there is no assurance that the symptoms will not recur.

MORTON'S METATARSALGIA: NEURITIS OF THE FOURTH DIGITAL NERVE. L. O. Betts. The Medical Journal of Australia, I, 514, Apr. 13, 1940.

The author gives evidence in this article to support his belief that Morton's metatarsalgia is a neuritis of the fourth digital nerve, with a pronounced neuroma in all cases. He and his colleagues have had 19 such cases, in all of which the fourth digital nerve was involved, with a definite neuroma in each.

The author postulates the theory that the condition is due to the double origin of the fourth nerve. It is formed by a joining of branches from the external and internal plantar nerves, which come from opposite sides of the belly of the flexor brevis, the nerve thus formed passes forward immediately on the transverse ligament. When the foot is in action the flexor brevis contracts, fixing the origin of the nerve, while dorsiflexion of the toe in walking stretches it around the unyielding transverse ligament. Each of the other digital nerves can slide easily longitudinally as the toes are dorsiflexed. A minor trauma causes the neuritis which progresses because of continued daily irritation.

The author treats the condition by a neurectomy, removing the neuroma and an inch of the nerve through a longitudinal incision between the heads of the third and fourth metatarsals.

LOW BACK PAIN. Paul C. Williams. Southern Medical Journal, XXXIII, 788, Aug. 1940.

It has been shown that the lower lumbar and lumbosacral articulations are responsible for symptoms of low-back pain, lumbago, and sciatica in the majority of cases. Changes within the lumbosacral and less frequently other lumbar intervertebral discs are undoubtedly the cause of symptoms in 90 percent of those patients who present themselves with any one or all of these complaints. Trauma is the etiological factor in bringing about the changes within the disc in most cases.

Acute traumatic and chronic destruction of the intervertebral disc, and anomalies of the fifth lumbar vertebra and lumbosacral articulations are discussed. The author believes that the insertion of opaque oils into the neural canal to determine disc changes has been abused. Proper x-ray technique and repeated careful clinical examinations afford adequate information for this purpose.

It is the author's opinion that symptoms are due primarily to disturbances in the mechanics in the lower part of the spine, and that to ignore these and to remove a prolapsed disc will result in persistent local and segmental symptoms following such surgical procedures. All cases should have prolonged conservative treatment before operation, as more than 90 percent of these cases can be relieved without surgery. Surgery should relieve nerve-root irritation by removing the facets which correspond to the segmental distribution of pain and nerve changes, and at the same time lay a lumbosacral graft. In those few cases which present spinal fluid changes and symptoms suggestive of a spinal cord tumor, opaque oil in the neural canal is indicated in order to gain a better understanding of the case before surgery is undertaken.—Earl D. McBride.

INTERNAL MEDICINE

Edited by Hugh Jeter, M. D., F. A. C. P., A. S. C. P.
1200 North Walker, Oklahoma City

THE WELTMANN SERUM COAGULATION TEST. Frank H. Tanner and J. Perry Tollman. From the Department of Clinical Pathology, University of Nebraska, College of Medicine, Omaha, Neb. American Journal of Clinical Pathology, Vol. 11, No. 6, June, 1941.

This is a coagulation test which has been used for many years and has had increased popularity with the European investigators and a limited use in America.

Its value is comparable to that of the sedimentation rate and the blood count.

The authors in this publication base their conclusions upon published reports of previous investigators and their own experience involving 152 Weltmann tests correlated with the white blood count, sedimentation rate and clinical findings. Cases were selected to obtain the greatest possible variety. The principle involved in the test is simply the determination of coagulation of the normal human serum diluted 50 times with solutions of certain electrolytes and heated in boiling water bath. Ten percent calcium chloride and ten dilutions were made, the dilutions ranging from 0.1 percent, 0.09, 0.08 and on up to 0.01. To each tube is added 0.1 cc. of hemoglobin-free serum and the tubes immediately placed in boiling water bath for 15 minutes. When removed from the bath, some of the solutions will be clear, some cloudy and some may contain a coagulant. Only the tubes in which there is a coagulation are considered and the number of these constitutes the coagulation band. The normal serum was found by Weltmann to form coagulant in the first six tubes in a concentration of calcium chloride of more than 0.04 percent. When coagulation occurred in fewer tubes, he called it a shift to the left and when more than six tubes, a shift to the right.

Weltmann sought to show that pathological conditions in which there was inflammation and exudation gave a shortened band or shift to the left, while those in which proliferation and fibrosis occurred gave a lengthened coagulation band or a shift to the right. Kraemer found that acute parenchymatous jaundice and cirrhosis gave lengthened coagulation bands, while obstructive jaundice due to stones or tumor did not. Levinson, et al. felt that the test reflected the pathological changes of rheumatic fever and tuberculosis more accurately than the sedimentation rate.

The authors in the pathological report have tabulated their findings as compared with the results of other laboratory tests and the final diagnosis in the cases and, as a result of their findings and careful consideration of previous reports, they concluded as follows:

1. Results correlated with the clinical findings, white blood counts, temperature and sedimentation rate showed that 70 percent confirmed these usual methods of investigation but added nothing of specific diagnostic or prognostic value.

2. In the remaining 30 percent of the Weltmann test, it appeared to reflect the true nature of the underlying pathology better than the usual methods of investigation. This was particularly true in diseases where both exudative and proliferative changes occur.

3. The test in itself is not specifically diagnostic of any disease.

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Atoka-Coal.....	J. B. Clark, Coalgate	J. S. Fulton, Atoka	Second Tues, eve.
Beckham.....	H. K. Speed, Sayre		Second Tues, eve.
Blaine.....	L. R. Kirby, Okeene	W. F. Griffin, Watonga	Subject to call
Bryan.....	J. T. Colwick, Durant	W. K. Haynie, Durant	
Caddo.....	E. W. Hawkins, Carnegie	G. E. Haslam, Anadarko	
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Muskogee.....	A. N. Earnest, Muskogee	S. D. Neely, Muskogee	1st & 3rd Monday
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Pittsburg.....	W. H. Kaeiser, McAlester	Edw. D. Greenberger, McAlester	3rd Friday
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Pushmataha.....	E. S. Patterson, Antlers	D. W. Connally, Antlers	
Rogers.....	W. A. Howard, Chelsea	P. S. Anderson, Claremore	1st Monday
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Stephens.....	E. C. Lindley, Duncan		
Texas.....	L. G. Blackmer, Hooker	Johnny A. Blue, Guymon	Subject to call
Tillman.....	T. F. Spurgeon, Frederick	O. G. Bacon, Frederick	
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Wagoner.....	H. K. Riddle, Coweta	S. R. Bates, Wagoner	
Washington-Nowata.....	S. A. Lang, Nowata	J. V. Athey, Bartlesville	2nd Wednesday
Washita.....	A. S. Neal, Cordell	James F. McMurry, Sentinel	
Woods.....	C. A. Royer, Alva	O. E. Templin, Alva	Last Wednesday
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Dissecting Aneurysm of the Left Common Iliac Artery Report of a Case*

KENNETH A. BREWER, M.D.**

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Surgeon General.*

A case of dissecting aneurysm of the left common iliac artery with fatal termination is herein reported. This condition is apparently rare as a review of the literature reveals only three previous reported cases. Kjellberg¹ reports one case which was confirmed by autopsy. In this case, a tumor mass in the lower abdominal quadrant was demonstrated by x-ray, prior to death. Barber² in 1926, reported a case of bilateral iliac aneurysms with a dissecting process present in both aneurysmal sacs. Joachim and Goldzieher³ report a case of bilateral saccular type aneurysms of the common iliac arteries with a dissecting process present in the left. Numerous cases of non-dissecting aneurysms of the iliac arteries have been reported, but the above named cases are the only ones found which are considered as true dissecting aneurysms. In each of these three cases the etiology was felt to be due to arteriosclerosis.

W. A. S., colored, a 50-year-old bricksetter was admitted to Walter Reed General Hospital on September 13, 1938. His past and family history were not important except that his father died at 49 from kidney disease; his mother died at 50 from cancer of the stomach, and one sister died of tuberculosis. His general health had always been good. He denied having had syphilis or gonorrhea, but did have a bilateral suppurative lymphadenitis some years before. One month prior to admission to the hospital¹ while going home from work he experienced a sudden sharp and severe knife-like pain in the left lower abdomen which radiated to the

lumbar region and down the left leg. This attack was accompanied by a brief period of weakness and unconsciousness from which he soon recovered and was able to continue to his home. The following day he was nauseated and vomited. The character of the pain changed to a constant dull ache with periods of sharp lancinating pain at irregular intervals, with radiation down the left leg. During the next three weeks before admission he remained home at rest, losing considerable weight and strength.

Examination revealed an ambulant, fairly well developed and nourished individual who appeared weak and ill. There was evidence of recent loss of weight. Temperature was 100°F, pulse 96 per minute and respiration 20 per minute. The palpable vessels disclosed arteriosclerosis commensurate with his age. Blood pressure was 140/70. The supracardiac area was slightly widened. Over the aortic area was heard an early soft diastolic murmur which was transmitted down the sternum. Numerous premature contractions were noted. The abdomen was soft, scaphoid and there was a moderate tenderness over the left upper abdomen. No masses or pulsations could be made out. Many teeth were missing and the remainder were in a very poor state. The remainder of the physical examination was essentially normal. Patient was given complete gastrointestinal survey which revealed no abnormalities except mild internal hemorrhoids and a diverticulum of the sigmoid. Six foot chest plate showed the lungs clear, the size of the heart at the upper limits of normal and a slight widening of the supracardiac shadow. Urine analysis was normal in all

*From the Cardio-Vascular-Renal Section of the Medical Service, Walter Reed General Hospital, Washington, D. C.

**Major, Medical Corps, U. S. Army.

respects. Complete blood count showed 4,180,000 red cells with 75 percent hemoglobin. The white cells numbered 9,200 with a normal differential count. The Kahn reaction was negative. Blood sugar was reported as 116.2 mgm. percent and urea nitrogen 17.64 mgm. percent. Electrocardiogram disclosed a partial intraventricular block, the duration of the QRS complex being 0.12 second; auricular premature beats; T wave negativity in Leads II and III with low voltage in Leads I and IV.

The following clinical diagnoses were made: (1) Arteriosclerosis, moderate, generalized, with chronic aortitis and relative aortic insufficiency. (2) Diverticulum of the sigmoid. (3) Hemorrhoids, internal, mild.

The clinical course in the hospital was not remarkable except for several attacks of sharp shooting pain in the extreme left lower abdomen. These were controlled with codeine and phenobarbital. The abdomen was examined on numerous occasions, but the findings were not remarkable. The blood pressure varied from 122/90 to 138/70. At about 3:00 A.M., October 14, 1938 he complained bitterly of sharp lancinating pain in the left lower quadrant, for which he was given codeine. This gave him some relief and he went to sleep. At 6:00 A.M. his condition became critical, and he died at 6:15 A.M.

Necropsy was done about 24 hours after death. The lungs were slightly adherent along the spine and there was some edema of the bases. The pericardial sac was universally adherent over the entire heart by fibrous adhesions. Heart weighed 450 grams and was slightly globular in shape. The muscle was of good consistency. The tricuspid valve was dilated, measuring 13 cm. in circumference. The wall of the right ventricle measured 4 mm. in thickness and the left ventricle 1.5 mm. The coronary arteries were normal and without atheroma. The aorta was irregularly dilated at the arch and throughout its entire length contained many plaques, which were in part pale and in part yellowish. There was no ulceration of the aorta. Beginning at the bifurcation of the iliac arteries and extending for a distance of 4 cm. along the course of the left common iliac artery was an aneurysmal sac. This had an internal opening through an atheromatous ulcer at the beginning of the left iliac artery, from which point it had dissected along the medial coat of the vessel for a distance of about 4 cm. There was an erosion of the aneurysmal sac posteriorly, but there was no rupture at this point. Anteriorly the sac was necrotic and had ruptured through the aneurysm wall and overlying peritoneum into the abdomen. The abdomi-

nal cavity contained about 2000 cc. of bloody fluid and clots. After complete gross and microscopic studies the pathologic diagnoses were: (1) Arteriosclerosis, moderate generalized, with arteriosclerosis, severe of aorta. (2) Aneurysm, dissecting, ruptured, left iliac artery, just below the bifurcation, secondary to No. 1, with hemorrhage, intra-abdominal, severe. (3) Pericarditis, adhesive, fibrous, old, cause undetermined. (4) Mild degeneration of the myocardium with replacement fibrosis. (5) Passive hyperemia, moderate, of lungs, spleen, liver and kidneys.

COMMENT

This case is of interest because of its rarity, only three other cases being found in the literature in which a dissecting process involved only the common iliac arteries. In all cases, the etiology was arteriosclerosis, syphilis playing no apparent role.

The acute onset is compatible with what one would expect when the dissecting process began with its point of origin through an atheromatous ulcer. As the process advanced, more attacks of severe sharp lancinating pain were experienced by the patient. Fatal termination was by massive hemorrhage into the abdominal cavity by way of a rupture through the anterior wall of the aneurysm and the overlying peritoneum.

Treatment in cases of this type and also in any type of aneurysm of the iliac vessels is of a surgical nature. Various methods⁴⁻⁵⁻⁶ have been described, such as ligation of the vessel involved above the aneurysm; partial and complete ligation of the abdominal aorta; and obliterative endo-aneurysmorrhaphies.

While cases of this nature are considered rare, this condition must be considered when lower quadrant pain is encountered, especially when the patient is in the arteriosclerotic age group.

SUMMARY

A case of dissecting aneurysm of the left common iliac artery has been reported in which the etiology is considered to be (on the basis of) arteriosclerosis.

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Electrotherapy in Ophthalmology*

MEYER WIENER, M.D.

ST. LOUIS, MISSOURI

In considering electrotherapy for the eye, one is forced to include most of the forces generated by the electric current, even though the effect of the electricity is remote. I refer to photo-therapy; electrically generated and controlled heat; the short wave and diathermy. Radium and x-ray must be included, although they are separate studies in themselves.

PHOTO-THERAPY

In the use of light treatments on the eye, several factors make the effect different than on other parts of the body, the most important of which is the transparency of the ocular media which allows certain kinds of light to penetrate enough to injure the different structures.

The cornea absorbs 50 percent of the longer infra-red, between 18,000 and 16,000 Angstrom units; the other half being absorbed by the lens. Between 16,000 and 13,000 Angstrom units the cornea absorbs almost all the light; while from 13,500 down to the beginning of the visible red rays at 7,700 an increasing amount is transmitted, reaching 100 percent for the rays of the visible spectrum, 7,000 to 4,000. In the ultra violet region it absorbs practically all of the rays below 2950. The aqueous and vitreous transmit all the rays which pass the cornea. The lens, besides absorbing most of the longer infra-red rays which pass the cornea, absorbs 25 percent of the rays between the 13,500 and 11,000; all the ultra-violet rays between 2950 and 3200 and part of those between 3200 and 4000. These rays are important, since it is only absorbed rays which are effective; or larger doses harmful.

ULTRAVIOLET

Ultraviolet rays are bactericidal, stimulate regeneration locally, improve nutrition by the hyperaemia produced, and when used for general body treatment, increase antibodies in the blood. The rays of special use are those below 3,000 Angstrom units. The cornea is especially sensitive to ultraviolet rays not only because of its absorption, but because of its rich supply of nerve terminals. Mercury vapor tube and the carbon arc are the chief sources of ultraviolet light. When

the cornea is exposed to ultraviolet light of sufficient strength, an abiotic reaction begins after six to eight hours, with swelling and irregularity of the epithelium and formation of vesicles. Treatment should begin with an erythema dose with approximately 6000 volt seconds exposure lasting one minute or slightly more, using a 40 mm. lens. To determine the sensitivity of the individual, one can try an erythema dose on the forearm. Even a slight abiotic reaction on the cornea is extremely painful. Such a reaction is the basis of snow blindness and may occur in typical form after exposure to the flash of an electric arc. Ultraviolet rays which pass through the cornea in large doses may have the same effect on the epithelium of the lens capsule as on the cornea (Duke-Elder¹).

Corneal ulcers have been reported as especially benefited by this method of treatment. The light should be focused on the ulcer alone, as nearly as possible. Even then, the effects are painful. Tuberculosis keratitis, serpiginous ulcers, dendritic and phlyctenular keratitis have received favorable comment. Personally, I would not recommend its use in any local inflammation, as its use increases the sensitivity to light as well as the vascularity and pain. The only exception is one of those slow healing ulcers with little, or no vascularity, or the type of lesion following an x-ray or radium burn. Even in these instances, the pit fills up and epithelium tends to be stimulated and regenerate with the use of water-soluble aniline red. A great advantage of the dye is our ability to control its action.

The best results from ultraviolet medication, in the light of recent knowledge, may be expected from general application, rather than local. Nedzel and Pincussen² found that the death rate in mice infected with streptococci was reduced from 25 percent in non-irradiated to eight percent in those irradiated with the carbon arc lamp, and to 15 percent with the quartz lamp. Why there should be this difference is not explained. When sulfanilamide was given, the death rate was higher in the irradiated animals than in the controls, increasing eight to 15 percent with the carbon arc and 54 percent with the quartz. The present revival of light therapy investigation had its beginning in Koch's observa-

*Read before the Section on Eye, Ear, Nose and Throat, Annual Session, Oklahoma State Medical Association, May 20, 1941, in Oklahoma City.

tion of the lethal action of sunlight on the tubercle bacilli and Finsen's demonstration of the cure of lupus by the carbon arc. For corneal herpes, the full erythema dose is given every two days until the lesions cease to stain. For general irradiation of the body, choose that type of lamp which exhibits a continuous spectrum and transmits the luminous near infra-red and longer ultraviolet rather than the shorter ultraviolet. At Moorfields Hospital under Duke-Elder, one-third of the body is irradiated with an erythema dose, which is repeated two or three times a week. It is found especially helpful in cases of lowered resistance.

GALVANIC CURRENT

It is used for the destruction of wild hairs and sometimes for the destruction of very small growths on the lids and on the conjunctiva. It is also useful in destroying large conjunctival vessels on the globe which may be unsightly. One may use dry or wet cell battery, or a transformer. The strength of the current is usually about ten milliamperes, but one must really judge by watching the freeing of the hydrogen bubbles in water when the two poles are immersed in a glass of water. One places both positive and negative ends in a glass of water, turning on the current until the bubbles emerge freely from the negative pole (hydrogen). The patient holds a pad connected with the positive pole in his hand, the needle is sunk gently into the hair follicle and held in place until a considerable collection of hydrogen bubbles collects over the follicle around the needle to a depth of about two millimeters, when the needle is withdrawn. The current should not be turned on until the needle is in place; and should be shut off before the needle is withdrawn. This lessens the pain and shock. When the needle is withdrawn, the hair often comes out with it. If effort is required to remove the hair, the follicle has not been destroyed. Not more than four or five hairs should be removed at one time. Growths are removed in a similar way. This method is especially applicable to marginal tumors of a benign character, whose surgical removal would also involve removal of the lashes.

DIATHERMY: MEDICAL AND SURGICAL

Medical diathermy is the production of heat in the body tissues by high frequency currents; insufficient in amounts however, to produce temperatures which would destroy the tissues or impair their vitality. In experiments using diathermy, infra-red and the heating pad, it is shown that diathermy produces the greatest elevation of temperature (600 milliamperes). The ratio for diathermy was 3 C. and for infra-red 2 C. in excess of the heating pad. Special lamps

have been recommended by Park Lewis, Burdick and many others. The carbon lamp seems to be practical and cheap. We have found it very effective in home treatment where local application of heat is indicated.

For medical diathermy, the short wave diathermy apparatus produces alternating current, whose frequency lies within a range of 10 to 100 megacycles (1,000,000 cycles) per second. Such a machine will also generate radiant energy, whose frequency is that of the alternating current generated. The ammeter readings are uncertain and cannot be depended on. The true heating current is always less than the ammeter reading. Reliance must be placed on the tolerance of the patient and the sensation of warmth. The electrodes must not be in contact with the skin. This makes for a more uniform production of heat in the tissue. With contact electrodes, the greatest heat production is in the skin and subcutaneous tissue in the vicinity of the electrode. As the electrodes are moved farther and farther away from the skin, the selective heating of the part near the electrode is replaced by a more uniform heat distribution. This makes short wave therapy preferable if the deeper tissue is desired without material peripheral heating. In place of using the term frequency to designate the type of radiation produced, the term wave-length can be used. The radiation from the machine travels with the velocity of light of 300 million meters per second. Since frequency is the number of waves of radiant energy generated per second, the wave length is equal to the velocity divided by the frequency. Thus, a frequency of one megacycle per second equals in wave length meters, 300 longwave diathermy. Ten megacycles equals 30 wave length of short wave diathermy, etc.

Most authorities use six meter wave length and comfortable heat. Birch-Hirschfeld³ uses a 19 volt ray for ten to 15 minutes. No anaesthesia is used beforehand. In painful diseases he begins with five or six minutes and uses it every day or every other day. The great advantage of short wave is its painless application and pain relieving qualities. One must be careful to keep in constant touch with the patient while the short wave is being administered, as he may feel comfortable at first, and then be getting too much heat later. He must be questioned as to his comfort from time to time. The uncertainty of estimating the true heating current and the possibility of deep burns in the tissues with poor blood supply (vitreous) must be placed on the debit side. Birch-Hirschfeld³ reported 94 cases in which it was used. Fifty-seven were classed as very good results; 24 as good, and nine negative. His

best results were obtained in interstitial keratitis, acute inflammation of the lids and tear-sac and in trigeminal neuralgia. He had most satisfactory results in 15 cases of exudative choroiditis.

G. Hausmann⁴ was not so sure about his results. He questioned whether the short wave was responsible or some other agent he used. He admits that he has never seen the short wave do any harm, or even produce irritation. Neither was he able to confirm the findings of Carlotti, Jaquet and Roland, who described enlargement of the blood vessels, hemorrhages and stopping of the arterial buds. Of interest are five cases of post-operative infections. Two severe ones were not influenced. One case of hypopyon, appearing five days after cataract extraction, healed promptly after the use of short wave and milk. In two cases of chronic inflammation following operation, one was benefited. Two cases of herpes of the cornea healed in two weeks, with no other treatment than hot water and atropine. This corresponds to the results of Grueter, Decker and Arendt. Two cases of phlegmon of the sac cleared rapidly. On one, a West operation was performed nine days later. He finds the best effects in deep seated, acute infections. This seems to be the general opinion, especially as to orbital abscess and sac inflammations.

W. Gutsch⁵ finds the short wave of especial value in tear-sac infections and orbital and lid abscess; these conditions showing quick improvement. For corneal conditions he has not found it useful, except in interstitial keratitis. He advises the dose to be of comfortable warmth and applied for six to 15 minutes, with a minimum of 48 hours between doses.

With penetrating, short wave ultra red light, focusing with Vogt's ultra red filter, H. Wagner⁶ was able to see nodes and efflorescences in the pupillary space, diagnosed with the slit lamp as tuberculous nodules, disappear. The objective findings were hyperaemia of the iris and slight iris swelling, first pigmentation and then final disappearance of the nodes in a few days. A large tubercle of the iris became deeply pigmented and eventually much smaller after use of the rays. In two cases severe reaction occurred, but finally disappeared. He was not able to offer any explanation for the beneficial affects.

Some interesting experimental studies on the effect of short wave on normal and infected rabbits were made by H. Scheyhing⁷. He found that

(1) Normal rabbit's eyes were not harmed, even with prolonged short wave application; nor was there any delayed

damage after several months. The temperature was 17 and one half.

(2) Raising the heat to 18 causes passing opacity of the corneal surface and permanent burning of the lids.

(3) Short wave has beneficial effect on staphylococcus ulcers. The ulcers heal quicker and leave less scar.

(4) Experimental herpes of the cornea healed quickly, whereas the control did not.

(5) Staphylococccic pus in the anterior chamber healed. The controls do not and result in opacity and destruction of the eye.

(6) Vitreous infected by staphylococcus is not influenced.

He concludes that, from these and clinical experience, it is shown that most cases of abscess of the lid, tear-sac, epithelial forms of herpes corneae, superficial punctate keratitis and exudative rheumatic iritis are benefited. The more acute the process, the better the results. He uses the Sieman's tube apparatus with a wave length of six meters.

In summing up the benefits to be derived from short wave therapy, it seems that all authorities agree that the more acute the inflammation or infection, the more benefit one may expect. Another thing on which all seem to agree is its special value in affections of the tear-sac and abscess of the lids. Quite a few have found it useful in herpes and in interstitial keratitis. Of the other diseases mentioned, there seem to be only scattering reports, not verified by additional evidence.

Short wave has been employed by Neymann and Osborn to elevate the body temperature. The temperature is kept at 105 F. for five hours. It has been suggested that it be used to replace malaria in the treatment of syphilis.

SURGICAL DIATHERMY

This means the production of heat in the tissues by high frequency currents of such a degree as to cause destruction of tissues. Its chief use has been in retinal detachment. In our experience it has surpassed any other means of correcting this condition. I do not believe that it is either necessary or advisable to use pins or any sort of stop needle, for several reasons. The main one is that one would have to have different length stops for the needles, since the sclera varies in thickness at different points; and how could one know exactly which one to use and where. For, if one used a certain length pin at, for example, the region close to the attachment of the tendons, where the sclera is at least a millimeter thick or more, it would perforate the sclera, choroid and retina if used close to the equator, under the tendon, where the sclera is less than one

half as thick. In using diathermy puncture for detachment, one can easily acquire the feeling by the sense of touch with practice, when he has gone sufficiently deep into the sclera. For the younger men, I would advise practicing this on animal eyes to learn how easily this sense can be developed.

Diathermy has also been recommended for the obliteration of cicatricial bands for stopping hemorrhage in evisceration of the orbit. It has also been advocated for the cure of marginal chalazion, although, in my opinion, a V-shaped excision with the scissors is to be preferred. Some use it for removal of wild hairs. Here again, electrolysis is to be preferred.

IONTOPHORESIS

By iontophoresis is meant a method by which drugs are introduced into the body by means of an electric current. Galvanic current, which is uniformly constant is used, in one direction and at low tension. The rate of flow is from one to 30 milliamperes at a voltage up to 70. One may use the current from dry cell batteries or from a dynamo, but that from the batteries is more even. The principle is to transmit ions of a certain chemical composition by means of the electric current so that they may be brought in contact with the tissue ions and intra-cellular organisms; or, the breaking up of the atoms of the chemical to be introduced by losing or gaining one or more of its electrons. The principle is based on Faraday's law, under which (1) the quantity liberated at the anode or cathode is proportional to the current passed, and (2) the quantities of different substances liberated by the same quantity of current are proportional to their chemical equivalents.

Failures may be due to improper technic, formation of insoluble compounds with the plasma and neglect of safety rules in the use of the galvanic current. The best results are obtained using two to three milliamperes per square centimeter, for the duration of two to four minutes. The current should be turned off gradually and the metallic part of the electrode must not touch the tissue, as it has a caustic effect. The smaller the opening of the electrode, the more concentrated it will be and consequently the less dose given. The pain following iontophoresis lasts from three to nine hours.

Leduc published his results nearly 40 years ago, and Traquair^s reported the successful use of the method in 1911, which included 15 cases of pneumococcic infection, two cases of diplobacilli, one pneumococcus and streptococcus and one sarcinae, all of which responded favorably. Arruga found that corneal ulcers cleared up with three applications of one percent optochin by means

of iontophoresis, applied two to four minutes, using a three milliampere current. Leech and Cooper treated two cases of corneal dystrophy successfully, using quinine bisulphate. The vision improved in one from 20/100 to 20/20 after 14 treatments; and from 20/50 to 20/20 in the other after 24 treatments.

Some most interesting experiments have been reported by G. Erlanger^s. He found that the tension may increase up to 50 mm. of mercury and then fall to five to eight mm. of mercury. Under influence of the galvanic current certain drugs have a special action on the autonomic nervous system, developing, under certain favorable conditions, characteristics which we may call electromotor or electro-kinetic effects.

(1) Miosis always sets in after iontophoresis and is the expression of a temporary reaction of the para-sympathetic nervous system.

(2) Prolonged duration of the specific action of the drug.

(3) Changed balance between the para-sympathetic and sympathetic nervous system.

He used two to three milliamperes of current not exceeding three minutes, and experimented with atropine, acetylcholine, prostigmine and adrenaline.

Clinically, he found that adrenaline iontophoresis in one to 2,000 or one to 10,000 solution; or a mixture of calcium chloride (1-300) with two or three drops of adrenaline prepares the iris for a stronger action of the subsequent atropine instillation. Prostigmine has the same effect as acetylcholine: stimulation of the para-sympathetic nervous system. In experiments with acetylcholine and adrenaline, one overcomes the effects of the other, but the adrenaline predominates. The pupil dilated with atropine can be brought down with acetylcholine in a few minutes. This is important.

The galvanic current has been used for many years in the treatment of paralysis of the ocular muscles, but its results are questionable. I have used it in many cases and have never been convinced that it had any influence whatsoever on the condition.

Electrically controlled heat in the treatment of corneal ulcers is of great value. The thermophore, devised by Shahan, is indispensable in the treatment of progressive, infected ulcers of the cornea; especially where they have progressed to the stage where hypopyon has developed. Shahan has found that a temperature of 158°F. applied to the surface of the cornea for one minute will be sufficient to destroy the organisms producing the ulcer without destroying the corneal tissue. The eye must be thoroughly anaes-

thetized, the lids held apart by the assistant and the patient instructed to gaze at a spot so that that part of the cornea where the instrument is to be applied will be exposed. Someone other than the operator, watches the time to tell when the one minute is up, since he has to keep his eye glued to the instrument on the cornea, in order that, should the patient move his eye, the instrument will not slide over another area of the cornea and denude further the epithelium. The epithelium is killed at 130. The cornea will resist 190; the minimal thermal death of pneumococci is 152; so that 158 was selected as the temperature to be used for the thermophore.

RADIUM AND X-RAY

The effect of radiation on cells is first, an arrest of their reproductive activity and then their degeneration by chromotolysis and vacuolization and their eventual destruction. This is directly proportional to mitotic activity and the degree of differentiation, so that malignant cells can be affected while other cells are not. Thus, if a neoplasm cannot be destroyed, it can be made quiescent. Blood vessels show obliterative endarteritis, and thrombosis is common. For this reason, radium or x-ray are beneficial

in opacities of the cornea where there is vascularization. We know that the prognosis for a favorable result from resection of the scar, or transplantation of corneal tissue in a vascular cornea is not good. Wherever there is vascularity there will be formation of connective tissue, which always means more scar. If, after transplantation or corneal peeling, we apply an erythema dose of x-ray shortly after the operation, while the new blood vessels are still young and active, the chances of their becoming obliterated are good; whereas, if we wait with the application of the x-ray, it may be too late. We sometimes perform a peritomy as a preliminary procedure for these operations, giving the x-ray dose within a few hours after the peritomy, thus reducing the vascularization before the main operation.

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Shock Therapy in the Affective Disorders*

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About six years ago the shock treatments of Sakel and Von Meduna were introduced into American psychiatry, the discoverers making the rather extravagant claims of 70 to 90 percent "cures" in schizophrenia. That insulin and Metrazol are useful in the treatment of schizophrenia is no longer questioned, but American statistics indicate that only 25 percent of schizophrenics so treated enjoy a remission of any real permanence. This is a great improvement over any previously known form of treatment, but the search for the cause and effective treatment of dementia praecox must still go on.

In 1938 the Metrazol convulsive therapy, introduced by Von Meduna, began to enjoy a wide usage in the treatment of mental diseases other than schizophrenia. Numerous reports upon its use in the affective disorders have appeared since that time; and like the early reports upon schizophrenia, the

recovery rate seems almost incredibly high. At the present time, shock therapy is being employed freely in the involution psychoses and the manic depressive psychosis, and a definite temperate optimism is reflected by those who use it.

At the Central Oklahoma State Hospital, the shock therapy of affective disorders has been most encouraging. During the past three years we have treated 34 cases of involutional psychoses and 20 manic depressives. While others have reported the treatment of groups as large as ours, no attempt has been made in the literature to analyze the treated cases as an aid in prognosis.

It is my object to summarize our observations in these cases and offer our impressions of the criteria on which to select the most effective treatment, and base the ultimate prognosis. (Table I).

Briefly stated, we found 20 (or 60 percent) of the 34 involutional patients treated with Metrazol to enjoy "social recovery," or recovery. One of these relapsed after 19

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TABLE I
Affective Disorders Treated with Metrazol Shock

	Number of Patients Treated	Recovered or Socially Recovered	Improved	Not Improved	Discharged from Hospital Following Treatment	Continuously Remained Out of Hospital Following Treatment
Involuntional Psychoses (Total)	34	20 60%	9 26%	5 14%	29 86%	22 68%
Melancholic Type	27	19 71%	6 22%	2 7%	26 96%	21 77%
Paranoid Type	3	1 33%	1 33%	1 33%	2 66%	1 33%
Paranoid and Schizoid Features	4	0	2 50%	2 50%	1 25%	0 0%
Manic-Depressive Psychoses (Total).	20	14 70%	4 20%	2 10%	14 70%	12 60%
Manic Phase	13	10 80%	2 14%	1 7%	10 80%	9 70%
Depressed Phase	7	4 58%	2 28%	1 14%	4 58%	3 42%

May, 1938 to May, 1941.

months at home, but following a second course of Metrazol was able to resume her business and domestic duties as well as before.

Nine more patients showed marked improvement, making a total of 86 percent who were benefited by treatment. Not all of this last group maintained their improvement, and many were given a second course with rather desultory results.

Only five of this group showed little or no response to treatment, and of these, four displayed definitely schizoid reactions. Indeed, had one of these patients been 30 years younger, she would have been diagnosed as a Catatonic Praecox.

The duration of the illness prior to treatment is found to have little effect on the prognosis. One patient who enjoys an excellent remission of three years' duration had been mentally ill for 11 years before treatment was started. Another had been ill ten years and another seven, both recovering satisfactorily while on treatment. This is in sharp contradistinction to Schizophrenia, where the incidence of response to treatment is closely correlated with the duration of mental symptoms.

Of much greater importance to the prognosis is the psychic content. In selecting cases of the Involuntional Psychoses for Metrazol treatment, we have found that the melancholic type offers a much better prognosis than the paranoid type. For practical diagnostic purposes, however, many patients present symptoms of both types and a few

conform to the classical description of neither. (Table II).

It is therefore our impression that we may obtain greater prognostic accuracy by studying the nature and intensity of the symptoms present in each individual psychosis. The involuntional patient is usually found to have three or more of the following symptoms, each present in varying degrees. These symptoms are:

1. Hypochondriasis.
2. Retardation and depression, with suicidal drives.
3. Delusions of guilt, with self-accusation.
4. Delusions of persecution.
5. Hallucinations (schizoid).
6. Cerebral arteriosclerosis.

In our series of cases, those illnesses marked by hypochondriasis, depression, and self-accusation, offer the best prognosis with therapy.

In those with pronounced paranoid trends overshadowing the depression and feelings of guilt, the prognosis is less favorable. In these, the outlook grows progressively worse as the paranoid features increase and the retardation decreases.

Those involuntional psychoses presenting active hallucinations respond least to therapy, and schizophrenic symptoms seem to hinder and complicate the therapeutic response. In such cases a combination of insulin and Metrazol therapy appears to be indicated.

Cerebral arteriosclerosis serves only to re-

tard the patient's recovery, and sometimes the confusion of arteriosclerosis is mistaken for psychic retardation.

Metrazol has no beneficial effects on arteriosclerosis, and this katabolic change in the blood vessels only makes the treatment more hazardous.

While Metrazol or electric shock appears to be the method of choice in the involutional psychoses, insulin is used as a profitable adjunct in treating the manic depressive disorders. (Table III).

Of the 20 cases of manic depressive psychoses treated, 13 were in the manic phase, and seven were depressed. At first we used Metrazol alone on both groups, because of the greater convenience and safety. But while Metrazol quickly dispelled the depression, we found in one case that the patient went from a depressed to a manic episode. In treating patients in the manic phase, Metrazol appeared to stimulate them and aggravate their overactivity. It should be noted at this time that no manic depressive patient received treatment who had been ill less than

four months, the average duration of illness being nine months. Since all cases were chronic in nature, the figures are even more significant, as the chance for an early spontaneous recovery was small.

In three cases in the manic phase we employed insulin shock alone, without results. When insulin was supplemented by Metrazol, the patients quickly responded to treatment. In four other manic patients who were progressing satisfactorily on the combination treatment, Metrazol was experimentally discontinued and they immediately became worse.

One patient who did not respond to Metrazol alone responded well to the combination treatment. When treatment was discontinued the patient quickly relapsed and again became acutely excited. Metrazol shocks alone effected a very rapid recovery in her subsequent attack though it seemed ineffective in the first attack.

Statistically, of the 13 manic depressive, manic phase patients who received shock therapy, ten made a clinical recovery within

TABLE II
Clinical Response of the Involutional Psychoses to Metrazol Shock

	Total Number Treated	Average Duration of Illness Prior to Treatment (Months)	Number Patients Who Left Hospital	Average Stay in Hospital After Treatment (Months)	Number Who Returned to Hospital	Number Patients Given Second Course of Treatment	Average Number of Shocks Per Patient	Recovery ++/+ 0
Involutional Psychoses	34	23	29	1.8 (1 $\frac{1}{4}$ -4)	7	12	9.4	20 9 5
Melancholic Type	27	26 mo. (3-129)	26	1.5	5	7	7.5	19 6 2
Paranoid Type	3	15 mo. (7-26)	2	2.4	1	2	9.0	1 1 1
Paranoid and Schizoid Features	4	6 mo. (2-9)	1	9.8	1	3	17.6	0 2 2

May, 1938 to May, 1941.

TABLE III
Response of the Manic-Depressive Psychoses to Metrazol Shock

	Total Number Patients Treated	Average Number of Previous Attacks (Hospitali- zations)	Average Duration of This Illness — Prior to Treatment (Months)	Number Who Left the Hospital After Treatment	Average Stay in Hospital After Treatment (Months)	Number Who Returned to the Hospital	Number Who Received a Second Course of Treatment	Average Number of Shocks Per Patient	Recovery Rates ++/+ 0
Manic-Depressive Psychoses	20	3	7 mo.	14	4.2	1	2	10	14 4 2
Manic Phase	13	3.4	9 mo. (4-18)	10*	2.4	1	2	9	10 2 1
Depressed Phase	7	1.3	3 mo. (1-9)	4	7.5	0	0	12	4 2 1
With Schizoid Features	4	0.4	8 mo. (3-18)	1	14	1	1	17	0 2 2

*From Both Manic and Depressed Groups.
May, 1938 to May, 1941.

six weeks after treatment was begun. Nine of these ten are at home and have remained well since treatment. One relapsed in seven months, was given a second course of treatment and is now at home. Two are in good condition, are actively employed in the hospital industries, but have not left the hospital because of unusual and unfavorable home situations. The one patient who did not recover had prominent hallucinations and other schizoid features, and his mental illness was of long duration.

Of the seven patients suffering from the depressed phase, four recovered and are at home. One, treated with Metrazol alone, entered a manic phase from which she recovered on a combination of insulin and Metrazol, and one patient failed to respond to extensive combination shock therapy. This last patient displayed prominent schizoid tendencies and there was some question whether to diagnose her as a depressed manic or a hebephrenic praecox.

In conclusion, the affective disorders (the involuntional psychoses, and the manic depressive psychoses) respond exceptionally well to insulin and Metrazol shock therapy. Those cases characterized most completely by symptoms of emotional and motor disorders respond more readily, while those with disorders of thought and perception respond less favorably. Schizophrenic trends should warn one to give a poor prognosis, while arteriosclerosis and other organic changes of the brain make it impossible for the patient to recover wholly.

The duration of the psychosis does not ap-

pear to have any marked influence on the prognosis in the affective disorders, though it markedly changes the outlook in schizophrenia.

Affective disorders characterized wholly by depression respond best to Metrazol alone, while those with symptoms of excitement, euphoria, and psychomotor hyperactivity seem to require insulin shock and respond most quickly to the combination of insulin and Metrazol.

Shock therapy is the treatment of choice in the entire group of the affective disorders, serving to shorten the duration of the illness and greatly decreasing the period of hospitalization. It is yet too early to know if it will have any influence on the recurrence of manic depressive episodes.

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The Significance of Detailed and Accurate Ophthalmological Information and Its Interpretation as a Factor in Neurological Diagnosis*

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I wonder how many of those present who are in the general practice of medicine, or specializing in Neurology or Neuro-Surgery are accustomed to receiving comprehensive and revealing ophthalmological reports. From my own experience in reading the case histories found in the hospitals where I have worked, I must confess that I am far from being gratified with the showing made by my fellow ophthalmologists.

The ophthalmologist is usually the first to be consulted in pre-chiasmal lesions and

chiasmal lesions and must be vigilant for the ocular syndromes. The internist and neurologist is generally first sought for advice by one with a lesion of the tract and radiations. He relies, however, on the ophthalmologist for help in the localization of the morbid change. The otologist plays a less important part. All should be familiar with the possibilities of ocular manifestations in the many and varied conditions which constantly present themselves clinically.

If these statements are not exaggerated, then one can easily understand the absolute

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necessity for accurate, detailed reports. When an internist dictates his findings in examining a chest or abdomen, he is not satisfied with having recorded the flat statement that nothing abnormal was found. Yet this very equivalent is too often read into the eye man's record in examining the fundus. The internist carefully outlines the various organs, detailed heart and lung sounds, recording the results of percussion and auscultation, regardless. The average oculist does not do this. With him it is usually a matter of reporting only the end results of his examination.

I would urge the necessity of a thorough, systematic, routine examination of the external eye, muscular movements and balance, fundus and fields; and what is more important, to record these detailed findings, even though they be normal, and incorporate them in his report. What may appear normal today can assume a different aspect within 24 hours. This is especially true in certain neurological cases. I have seen a definite blurring of the disc margin in a case of encephalitis on one day disappear entirely the next, and manifest itself again after an interval of normalcy of several days or a week or more. We are all fully aware of the fleeting characteristics of the symptoms and signs in general sclerosis.

This detailed description should include mention of the width of the palpebral fissures and of the lid movements and closure. In observing the pupils, we must always bear in mind the knowledge that even the normal pupil can vary in size and reaction under different circumstances. For example, age is a factor. The infant's pupil is very tiny. In youth it is quite large, and in old age reverts back to type to become very small again. This is of importance in more than one disease. For example, one finds larger pupils than usual in old people with high blood pressure. This is not constant, but makes one suspicious. Again: should one find an old man who comes to you with cataract, and has large pupils, especially if they are unequal, be on the lookout for the complication of glaucoma, for the very reason that the pupils of the old are normally small. The size of the pupil varies with light, accommodation, heat or cold, sleep, excitement. All of these changes are physiological and must be taken into consideration in summing up our findings.

Another factor not to be overlooked is the possibility of the pupil being affected by drugs, taken either internally or instilled locally. One morning, quite a few years ago, I was called to the phone by an officer of one of our large wholesale houses, who informed me that one of their executives who had left my office a short while before

was acting like a madman and was being restrained with difficulty by several men at the store. I went over immediately and realized that something more than the homatropine, which had been instilled in his eyes at the office was having its effect. Repairing to the drug store where the prescription had been filed, I questioned the chief clerk, who insisted that there had been no mistake; that he had filled the prescription himself. I demanded to see the bottle from which it was taken, whereupon he took it down, turned white and gasped "My God: Hyoscin." A lawsuit resulted in a judgment against the drug store.

A notation on the sensitivity of the cornea should be included in the eye report to the Neurologist. Also, the amount of protrusion of the eye should be measured on the exophthalmometer. A systematic, routine examination of the fundus, with accurate recording of all observations, normal and otherwise, is absolutely essential. I have seen an expert Neuro-Surgeon diagnose optic neuritis in a case where the disc was perfectly normal, but did not appear normal on account of haziness of the cornea and lens, which he had not observed, because he had not examined the media at a distance before looking at the fundus by the direct method. The slight opacity in the media made the disc look red and the margins blurred, just as the sun looks red and blurred through a mist or through smoke.

After the media have been examined and the findings recorded, the next in order is the disc. This includes size, color, and contour, and surface level. By that, we mean any swelling or depression natural or otherwise. There are so many congenitally, physiological variations from the usual in the appearance of the disc that it would take much more than the allotted time to describe these, alone. What I wish to impress particularly is that all of these findings, whether usual or otherwise, must be described and recorded in detail. For, when a pathological condition is superimposed on an unusual congenital anomaly, it is of unquestioned value to the examiner to have knowledge of its existence. I may mention one example. I was asked to examine a young boy who was under observation for an obscure ailment. When the Neuro-Surgeon examined him, he phoned me to request an immediate fundus examination. I told him I thought I knew why he was disturbed and my surmise proved correct. He had observed tortuosity of the veins in the retina, which I told him, in advance, that I had observed and recorded during routine examination for refraction several years before, and which I found had not changed with the years.

After the disc findings have been recorded, we systematically search for lesions in the retina and choroid. If one follows each main branch of the arteries and veins in turn, with their small branches, he cannot fail to find hemorrhages, exudates and the like, for they are deposited along the vessels. The macular area is next in line and then come the vessels, whose size, color and contour are noted. This means not alone actual, but relative size as well.

I have seen reports containing merely the fact that choked discs were present and the amount of swelling in each. That is not enough, because, unless a minute description of the disc, the immediate surroundings of the disc, including the size and location of each individual hemorrhage is revealed, it is not possible to follow the course of the condition to tell whether it is progressing for the better or worse. In former years there was much discussion as to whether the side of the greatest swelling was the side of the tumor, or the opposite. Now we know that the amount of swelling has practically nothing to do with the location of the tumor, as regards the right or left side. In fact, it was clearly demonstrated some years ago by Walter Parker that the greater swelling in one eye was due to a lower intraocular tension on that side, thus offering less resistance to the pressure from behind.

Brain tumor is not the only condition which can produce edema of the optic nerve, or condition resembling choked disc. I have seen a choked disc of six to eight diopters, no retinal hemorrhages, and retained central vision from essential high blood pressure, autopsy verifying the diagnosis. Many feel that they are able to differentiate choked disc and optic neuritis from the fundus picture alone. There is no doubt but what we can be fairly sure of this difference in many cases, but there is one thing essential to make sure, and that is the central vision. In choked disc the central vision is affected late, while in optic neuritis it is an early accompaniment. Many authorities question whether one can have choked disc in sinus disease. Under certain conditions I believe this is possible; although, in the vast majority of cases, the findings are those of retrobulbar neuritis with most of the remainder optic neuritis. In choked disc, we have an edema of the nerve head in the beginning, with few hemorrhages or exudates, a translucent nerve head swelling and retained central vision. Here is where careful field recording is of the utmost importance, because the central field is lost very early in optic neuritis, whereas the contrary is true in choked disc. The appearance of the disc in optic neuritis is more murky looking, as one

would expect from an inflammatory condition.

The appearance of the fundus gives us little or no clue as to the nature or location of the lesion. Choked disc, while generally indicating a lesion behind the chiasm, can manifest itself in chiasmal tumors under certain conditions, or even tumors in the forebrain, providing pressure is exerted on the third ventricle. Although the field of vision usually helps locate the site of the lesion, it does not necessarily do so. The lesion may be due to a new growth, inflammatory, or vascular. Sometimes the ophthalmologist can help decide which.

Peripheral fields may show us little or nothing in the early stages of brain lesions. Fields taken on the tangent screen magnify sufficiently to reveal pressure or inflammatory lesions very early. The earliest type of prechiasmal lesion is a relative scotoma. A unilateral central scotoma is necessarily prechiasmal. A bilateral central scotoma, if chiasmal, would not involve the entire central field. An upper temporal notching may be due to a prechiasmal lesion. This may appear first on one side only, but eventually, both will be involved. In fact, there is usually more indentation on one side than on the other in the beginning. Many think of chiasmal fields in terms of bitemporal hemianopsia. While this is almost pathognomonic, one may have hemianopsia in chiasmal tumors, providing the pressure is exerted on one side of the bifurcation, either on, or back of the chiasm. This can be differentiated from the homonymous hemianopsia due to lesion in the tract, because central field is retained in the latter.

If we should find, in the beginning, a normal field for white, with merely red and green quadrant notchings, look for a lesion in the optic radiations or in the optic perception center. In the latter, they are apt to be more symmetrical, whereas those in the radiations tend to be somewhat bizarre. In addition to their being more symmetrical in tract lesions, there will be retention of the central field.

Many field defects are due to vascular grouping in the circle of Willis, rather than to the group itself. Aneurism of the internal carotid or the circle of Willis may cause unilateral loss of vision or homonymous hemianopsia, intermittent ophthalmoplegias or pains in the distribution of the upper branches of the trifacial nerve. Transitory symptoms are often the result of recurring hemorrhages from the aneurism. Aneurism of the anterior cerebral will show unilateral loss of vision. The posterior communicating branch will show a homonymous hemianopsia. It can only be proven surgically. The symptoms are intermittent; last a few days,

with a remittance and then recurrence. Later come symptoms of extension with involvement of other nerves in that region.

Sphenoidal ridge meningioma is a very slow growing tumor, frequently showing exophthalmos, loss of vision and choked discs. Pressure or erosion may cause involvement of the third or anaesthesia of the first branch of the fifth. The diagnosis can be made from the x-ray pictures, as they will reveal sphenoidal ridge erosion, calcium deposits in the tumor and increased density of the soft parts.

In suprasellar cysts, loss of vision and bi-temporal hemianopsia with choked disc, are the result of the growth expanding upward above the dura and causing increased intracranial pressure. There will also be erosion of the sellar, and calcium deposits in the tumor.

Vail has reported seven cases of syphilitic arachnoiditis of the chiasm with rapid failure of vision, chiasm defects in the field, mixed type of optic nerve atrophy, with serological proof of syphilis. Three of these cases had been diagnosed by neurologists as tabes. Improvement in one case followed removal of the membrane around the optic nerve. He recommends surgery before the nerve is too badly injured. He holds the mixed form of optic nerve atrophy as a combination of atrophy and neuritis, to be pathonomonic for achroditis of the chiasm. Arachnoiditis of the chiasm is not necessarily syphilitic. Neuro myelitis optica may give rise to similar symptoms and signs, but there is accompanying fever and peripheral signs of a myelitis. The presence of peripheral sensory and motor manifestations is pathognomonic of the disease.

In frontal lobe tumors, there may be no physical eye signs for a long time, and possibly not at all. If the growth gets so big as to spread backward and increase the intracranial pressure then one may get choked discs. On the other hand, before this happens, one can have a pressure atrophy of the nerve on one side, with a choked disc on the other. Persistent, very severe headaches with no apparent cause should always make one think of the possibility of frontal lobe tumor.

The optic tracts pass between the temporal lobe and the cerebral peduncles; therefore may be affected by either direct or indirect pressure. The differential point of diagnosis in the fields is that the field in tract lesions is incongruous. Also, in a tract lesion there may be loss of the pupillary reflex, which would not be the case if the lesion lies behind the posterior geniculate body. Because of the anatomic arrangement of the visual fibers in the optic radiations, a lesion in the right temporal lobe (optic abscess)

will cause a left quadrant hemianopsia, affecting the upper quadrants of the visual fields. A lesion in the substance of the temporal lobe may produce a complete homonymous hemianopsia, a quadrant hemianopsia or homonymous scotomata.

Lesions of the lateral surface hemisphere produce disturbances of the higher visual sensations with intact visual sensations. These lost sensations may involve sense of depth, orientation, visual attention or agnosia. It is thus seen, that it is not only necessary to examine the central visual acuity when a patient complains of visual disturbances, but the higher visual sensations as well. I have seen a patient come in complaining of not being able to read. When tested with the chart for distance and near, his acuity was normal for distance and near. The peripheral fields were normal; but the central fields, taken on the tangent screen, revealed a right, homonymous scotomata, leaving the central point for fixation intact. This, coming on suddenly, meant a very small hemorrhage in the visual center.

Again, we have children brought in who are poor readers, but who seem to be as bright, or brighter in other studies not requiring reading, than the average. It is not at all unusual, if we take the trouble to search, to find that the child is suffering from congenital word blindness. One can easily see how important it is to unearth these cases early, so that the child may be taught to use and develop the other side of his brain.

Cerebellar lesions cause ocular symptoms by indirect pressure on the brain stem, producing paralysis of the extra-ocular muscles. By irritation of the pathways of the eighth nerve one sees nystagmus. The nystagmus may be so fine that it cannot be observed on ordinary examination, but may be revealed on examination with the ophthalmoscope.

When the motor function of the eye is involved by paralysis of one or more of the eye muscles, one must think of a lesion in the brain stem, where these centers lie. Certain diseases of the nervous system have a predilection for these nuclei, such as tabes, paresis, multiple sclerosis and myasthenia gravis, so that the possibility of one of these conditions causing the paralysis must be seriously considered. A hemorrhage in the brain stem may cause a complete third nerve paralysis on the side of the lesion with a hemiplegia and hemianaesthesia on the other. This can happen because of involvement in the mesencephalon of the root of the third nerve, the pyramidal tracts and the medial lemniscus.

Encephalitis may make its first manifestation by a transient muscle paralysis. In fact, in the early stage, most of the symp-

toms and signs may be of the fleeting type. I have seen a distinct blurring of the optic nerve head on one edge one day in encephalitis, with a perfectly normal disc the next day. A week later it may reappear as either a temporary or more or less permanent picture. Right here, one can see the necessity for accurate, detailed record taking; for what is seen one day may present an entirely different picture a few days later. Paralysis of some of the branches of the third nerve with sparing of others, points to a nuclear lesion. There may be disturbances of the associated eye movements, such as nystagmus or delayed spontaneous movements. In chronic encephalitis one often sees anomalies of the pupillary reaction, weakness of convergence and other bizarre ocular signs. The paralysis noticed in the acute stage may remain permanent.

Unilateral anaesthesia of the cornea accompanying nerve deafness may be the earliest sign in cerebellopontine neuroma. As the tumor progresses, the sixth may become involved along with choked disc, and involvement of the fifth and seventh. A peripheral involvement of the seventh always results in complete paralysis of the muscles of the face. Because of the bilateral supranuclear innervation of the facial nucleus for the ocular division, a lesion here will result in sparing of the frontalis and orbicularis muscles.

There is still much discussion as to whether sinus disease can produce retrobulbar neuritis, or rather, how many of the cases which we attribute to sinus disease are due to some other condition; particularly do I refer to multiple sclerosis. There is a growing movement to the belief that multiple sclerosis, although a rare disease, is too often overlooked, and that many of the cases of retrobulbar neuritis which get well following opening of the sinuses, would get well anyway without any operation; later developments proving the case to be multiple sclerosis. This is the stand taken by W. I. Lillie, who goes to the extreme and declares that sinusitis rarely, if ever, produces retrobulbar neuritis. I am certain that I have seen many cases relieved by opening the sinuses; cases which I have followed over a period of many years, and which never developed any further signs of multiple sclerosis. Opticochiasmatic arachnoiditis and neuromyalitis optico must also be considered. These we have already discussed. Baso-frontal tumor, toxic substances such as tobacco, alcohol, lead, hereditary diseases, diabetes and other general diseases may produce retrobulbar neuritis.

I have seen one case of retrobulbar neuritis start, just as one would expect it to in multiple sclerosis, in one eye. All physical,

neurological and nasal examinations were reported with negative findings. The disease advanced until there was no perception for light and no reaction of the pupil to light. I insisted on the sinuses being opened on account of the history, which was that the trouble started with a cold. When the sinuses were opened, no pus or secretion was found. Nevertheless, within 24 hours there was perception for light with a gradual improvement in vision and in the field, until today, more than 15 years later, the vision is 20/40 in that eye with a field 2/3 normal in size. The disc is perfectly white and sharply outlined.

Another case came under my observation more recently. I was asked to see a young woman who, at the time, was totally blind, with no perception for light and no reaction of the pupils to light. She had been blind for two days. The history was that of gradual, then more rapidly failing vision; first in one eye and then in the other. At first, a positive Wasserman was reported; but on re-check both the blood and spinal fluid Wassermans were negative. In this case also, the sinuses were found to reveal nothing abnormal, either by nasal examination or x-ray. She also gave a history of the loss of vision following a cold. Her fundus, at the time I examined her revealed a swelling of both discs of more than four diopters, with hemorrhages and a few exudates. Here again was proven the fact that the chief differential point of diagnosis between choked disc and optic neuritis is that in the latter, one has early loss of central vision. The sinuses were opened, with neither pus nor secretion found. The vision began to come back within 36 hours, with continued improvement.

I cite these two cases to prove that not only must we be ultrascientific and record all physical findings, but we must have patience to listen to the patient's history and lend it sufficient weight.

I was always taught that, on account of their development from the same tissue, what one saw in the retinal vessels was merely a reflection of what one would find in the vessels of the brain. I still hold that opinion, although this stand has been open to question lately. Two years ago, Rintelen made a report of 45 cases before the Swiss ophthalmological Society in Basal. He was unable to corroborate the assumption that arterio-sclerosis of the retinal vessels is always associated with arterio-sclerosis of the cerebral, and vice versa. Voght, in the discussion following, still held to the former theory. There will probably be further discussion and enlightenment on this subject later.

I might be asked: "What about the gen-

eral practitioner and the neurologist. Do they always give us satisfactory reports?" My answer is "No": but it isn't always their fault. When we send a case for consultation and advice, it is incumbent on us to give him a detailed report of our findings and not merely the diagnosis. Also, we should tell

him what we suspect and what we would like him to look for. This works both ways.

In closing, may I add that the ophthalmologist's report should contain, in addition to the accurate, detailed findings, a summary of the outstanding features, his impressions and, lastly, his recommendations.

The Pitfalls of the Cesarean Baby*

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The first successful cesarean section was performed at Middleton, Ohio, in 1827 by Doctor John Lambert Richmond with only a small pocket case of instruments and candle light. The mother lived, but the baby died. Since then there have been many advances in both surgery and obstetrics but the mortality rate of babies delivered by cesarean section remains high. The public has become accustomed to successful surgery in many fields and the death rate of mothers who have a cesarean section is low, so a great amount of attention has not been paid to the infant. It is now generally believed by the public and many physicians that any obstetrical difficulty can be remedied by a cesarean section with the utmost safety to all parties. Thus many operations are performed that are not indicated, and a great number of men are operating who have not had the proper training. Many factors contribute to the death of these babies. It would be wrong to place the mortality rate on any one factor, so I am dividing them into their respective fields; and first, I will consider the anesthetic, as this has a direct bearing on the child.

According to Heard¹, of Toronto, the safest anesthetic for the child is either spinal anesthesia or cyclopropane. The highest death rate he encountered was with ether and was only slightly better with nitrous oxide, oxygen with ether. These findings were not born out by Smith², of Boston, whose work was done on both maternal and fetal blood of cesareans. He found that the oxygen content of both mother and infant was higher during ether anesthesia, than with nitrous oxide and oxygen, and that the babies were easier resuscitated when ether alone was used than when any other anesthetic was used.

We have had 201 Cesarean Sections in the past 13 years at our hospital, and the type

of anesthesia used has been ether, nitrous oxide, oxygen with ether and nitrous oxide and oxygen. Most of these received a gas induction and were later switched to ether vapor. Of this number, only five received nitrous oxide and oxygen and there were two fetal deaths in this group. Great difficulty was encountered in resuscitating two of these infants and it was necessary to use artificial means. We have not had this difficulty with ether anesthesia alone, and of the 201 cases I have been able to trace only one death to nitrous oxide and oxygen. The past few years our anesthetists have been switching the mother to pure oxygen about the time the surgeon makes his incision in the uterus. This gives an increased amount of oxygen in the maternal blood and most of the babies take on the respiratory reflex at once. It is evident that any form of anesthesia acts as a depressant on the baby, and while this depression may not be marked in full term healthy babies, it will create a hazard in premature and toxic babies.

Washington County Memorial Hospital has had a large number of cesarean sections and infant deaths in proportion to normal births since it was built in 1922, and I have abstracted the records since 1928. The figures listed will give you stillborns, prematures and all babies who died of cesarean sections the first two days.

1928	5	Cesareans	No infant mortality			
1929	15	"	26.66	%	infant mortality	
1930	13	"	15.38	"	"	"
1931	22	"	4.5	"	"	"
1932	17	"	5.29	"	"	"
1933	13	"	23.3	"	"	"
1934	8	"	12.5	"	"	"
1935	13	"	7.7	"	"	"
1936	19	"	5.26	"	"	"
1937	16	"	12.5	"	"	"
1938	26	"	7.69	"	"	"
1939	24	"	8.33	"	"	"
1940	11	"	9.09	"	"	"

Making a total average of 10.57 percent

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for the 13 years. Taking the years from 1936 to 1941, there were respectively 1,271 normal births with infant mortality rate of 5.7 percent. The infant mortality rate of four representative hospitals of Oklahoma for cesareans was 1.7, 9.0, 9.5 and 21.9 percents. These figures included stillborns, prematures and newborn deaths. So it is apparent that a baby delivered normally has a greater chance of living than one by cesarean section.

There are other factors that enter into these infant deaths, as we ascribe only one to the anesthetic. If the baby is in good condition when an operation begins and is not injured by the anesthetic it must be injured by the type of delivery. In going over these cases I find that this has been a routine procedure in a vast number of these cases. The mother is given a cc. of pituitrin before the skin incision is made and by the time the uterus is opened it has had time to produce forceful contractions. An incision is made in the uterus and the baby delivered rather easily up to the head. At this point the uterus usually clamps rather snugly around the baby's neck and considerable traction is exerted on the legs of this infant in order to be able to extract the aftercoming head. I think that it is here that traction is exerted on a relaxed infant and that the tentorium cerebelli or cord is torn with resulting hemorrhage and respiratory failure. Excluding the stillborn and prematures, most of these infants who died were large healthy looking babies who breathed with difficulty, became cyanotic and died within a few hours to two days after birth. In this series of 201 births there were 14 deaths of babies whose condition was good when the mother was operated, with a death rate of 6.9 percent against 1,233 normal deliveries with a death rate of 3.1 percent. I have excluded stillborns and prematures in the above figures.

When one looks over these figures it is apparent that this abnormal method of delivery which is supposed to alleviate the dangers to the infant in reality increases its hazards. According to Brandberg³, the mortality rate from classical cesarean sections was about 7.5 percent and was increased if the percentage was figured up to one month of life. He believes that if postmortem examinations were made that many more cerebral hemorrhages would be found.

In order that the health of the infant be safe-guarded, I think the following should be the basic principles in all cesareans.

1. No preliminary hypodermic or sedative except atropine.
2. Ether vapor with oxygen just before the infant is delivered.

3. No pituitrin before the infant is delivered from the uterus. An assistant can control any hemorrhage and there is no indication to stimulate the uterus before delivery of the baby.
4. Avoid haste in delivering the aftercoming head. Either place the fingers in the baby's mouth, lifting the feet with the other hand, employing a modified Smellie-Veit or by placing forceps on the aftercoming head. There is no great haste to extract the head as a small amount of aspirated amniotic fluid will not hurt the baby as eight to 15 minutes is considered normal in a breech extraction, you have plenty of time.

It is interesting to note that the average time for the surgeon to operate was 34 minutes. In most cases from the time the skin incision was begun until the baby was delivered was approximately four minutes. Considering the low maternal deaths from this type of operation, there should be no reason for such haste. I will cite two cases to bring out this point.

Mrs. M. L., age 26, white. Had a previous cesarean section two years before and had received adequate prenatal care with normal blood pressure and urine. She was given no preliminary hypodermic or sedative. Heart tones of baby were strong before going to the operating room. She was operated and delivered of a baby boy, vertex presentation, weighing slightly over seven pounds, two minutes after skin incision was made. The baby took on the respiratory reflex normally. Two hours later it became spastic, cyanosis developed at intervals, heart tones irregular, the child developed an expiratory cry, respiration slow and shallow, convulsions, died 17 hours after delivery. Mother made an uneventful recovery.

Mrs. C. L., age 34. One child previously with third degree laceration. Came to the hospital and stayed two days, having very slight contractions. Head remained high and fetal heart tones were good. Surgery was then advised and a five pound baby was delivered three and one-half minutes after the incision was begun. The baby was difficult to resuscitate, had slow irregular respirations after they were established, became cyanotic at intervals and died six hours after birth. Mother made an uneventful recovery and was dismissed on the twelfth day.

I have not been able to obtain statistics on infants who sustained birth injuries and lived and are a major problem for the pediatricist. It is not of any value to try and treat these injuries but we should try to guide the people so they will not occur. Too frequently the doctor is pushed into a surgi-

cal procedure which is not indicated, or which time and selected consultation could have prevented.

CONCLUSION

Cesarean section has a higher infant mortality rate than normal delivery.

We have found ether and oxygen to be the safest anesthetic for the baby.

No traction should be exerted on the after-coming head except with forceps or by modified Smellie-Veit.

Haste is not essential in cesarean sections.

It is the rapid delivery with traction on the relaxed baby which causes birth injuries and infant deaths.

The public should be advised of the danger to the baby and many operations could be avoided, thus saving a great many babies each year.

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Infection Among Selectees*

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The new recruit is picked up out of civil life singly or in small groups of three or four, and sent for his first physical examination to the local medical examining board. Many of you are serving on these examining boards without any remuneration whatsoever, and you are to be complimented on this patriotic service that you are giving. This is an important link in the chain of physical examinations given the selectee, and is, in reality, an army function which I personally feel should be taken over by the army.

As soon as the selectee is accepted for service and put into larger and larger groups, he begins to pick up infections. Not many of these infections reach epidemic proportions, but all those who have not had some of the more contagious of these seem to pick them up very soon.

At Fort Sill these last few months it has been the "flu," German measles and mumps. You might have thought from your experience that every youngster in the country has had measles and mumps, but it is surprising how many, particularly those from rural communities, get these diseases after they get to camp. It is quite a unique medical experience to see a single group of 50 to 150 cases of mumps or measles at one time in these grown men.

In that number of cases of one condition you have an opportunity to see many unusual complications and atypical cases. In our mumps epidemic a few cases of orchitis occurred without the parotitis. These were not cases of gonorrheal orchitis and were probably a complication of sub-clinical mumps. One or two cases of suppuration of the parotid gland occurred in our mumps series. All kinds and degrees of rash have

been seen in our measles cases. Initial luetic lesions have occurred that were multiple and had the gross appearance of chancroids, and yet showed the *Treponema pallida* on dark-field examination. Typical single chancres were seen in which repeated dark-fields were negative, and the patients did not subsequently break out in secondaries, nor did they develop a positive serology.

Then there are the groups of less frequent diseases that are continually occurring. Diarrheas occur in small groups of three or four. These are usually due to some dietary error, but any that last more than a day or so may be the beginning of a bacillary or amebic dysentery. One case of para-typhoid B. was found at Fort Sill this year. Malaria occurs more frequently than you might suppose. Only one case, however, has occurred in a soldier coming from a non-malarial state. It was not thought that he contracted the disease after coming to Fort Sill, although many of the *Anopheles* mosquitoes have been captured there.

Gonorrhea, syphilis, chancroid and lymphogranuloma inguinale continue to appear in too frequent regularity. Not a few of the initial lesions are atypical, as has been stated. Several extra-genital lesions have been seen, one chancre of the lip was found.

One or two cases of chicken-pox have occurred, and one case of scarlet fever. An occasional case of scabies is discovered, and numerous cases of pediculosis. Vincent's infections have not been very numerous. There have been no cases of diphtheria, epidemic meningitis or poliomyelitis.

Most of the cases of respiratory infection and "flu" have been mild, although there perhaps have been more cases in this group than any other. Several cases of both pneumococci and streptococci pneumonia have occurred with one or two deaths. There was

*Read before the Section on General Medicine, Annual Session, Oklahoma State Medical Association, May 20, 1941, in Oklahoma City.

one small group of pneumonia that we thought was possibly of the so-called virus type because neither pneumococci nor streptococci could be found in the sputum, and all the cases had a persistent leukopenia. Tuberculosis with T.B. in the sputum has been found a few times. These were probably arrested cases that had become activated, or they may have been mildly active cases that were overlooked in the induction examinations. A small epidemic of streptococcic sore throat broke out in one outfit.

Lastly, there is a small group of interesting conditions, which, although they may not all be infectious, are nevertheless interesting because, perhaps, they are not so frequent. Among these is leukemia. One case of acute lymphatic leukemia occurred which terminated fatally in about three weeks. One case of sudden sub-arachnoid hemorrhage. A case of streptococcic meningitis developing from a middle ear infection without any mastoid involvement. A case of bronchogenic carcinoma in a 40-year-old soldier, which eroded into a large blood vessel and had a metastatic nodule in the heart muscle. A gastric carcinoma in a 27-year-old negro. Diabetes, thrombocytopenic purpura, peptic ulcer, Hodgkin's disease, infectious mononucleosis and several other interesting heart and kidney conditions.

The list of nervous and mental conditions is not very large, but includes many varieties from mild psychoses to "plain nuts."

Injuries from accidents are quite numerous. The traumatic surgery wards are probably the most active on the surgical service. Numerous fractures, both simple and compound, occur. Gunshot wounds seldom occur on the firing range, but we have received some cases as the results of fights, as well as stab wounds. One fatal case occurred when a 75 exploded prematurely about 20 yards from the muzzle of the gun, and a shell fragment passed entirely through the skull of a member of the gun crew.

You can see from this brief account that the infections and other conditions among selectees are, as you might expect, practically the same as occur in civil life. There are more cases of some of the highly contagious infections because the recruits are brought together and remain in closer groups than in civil life. Atypical cases and unusual complications are seen more often because the number of cases is larger.

No matter what speciality of medicine you have been practicing in civil life, nor what assignments you may get when called into the service, you will find it a most interesting and valuable experience. The close association with medical officers from other parts of the country is, in itself, educational.

You have the opportunity to compare notes with them and to become familiar with different methods of treatment. By far the larger number of the younger medical officers are exceptionally well prepared. It will fully tax the ability of the older men in the service to equal these younger officers in the knowledge of the more recent advances in medical science.

The regular army medical officers are well prepared medically and are much more used to handling large groups of cases. It has been my experience that most regular army doctors are not only willing but anxious to assist the civilian doctor coming into the service to adjust himself to army methods. While we can give them much, we can also learn much from them, and you will be wise to seek their council frequently.

In gaining experience in handling large numbers of examinations in short periods of time, you will find that you will have to make your diagnoses rapidly. You will have to increase your power of observation, which will be to your gain. Small but characteristic signs and symptoms must be spotted quickly and a decision made. You may say, "that kind of stream-lined diagnosing is only guessing." Well, perhaps so, but you will be surprised how many of these opinions are correct and stand up when the case is re-examined by the hospital staff where more time for study and other diagnostic aids are available.

There is one feature of military practice that is not so satisfactory from a medical standpoint. If you happen to be assigned as a battalion or regimental surgeon, you will not have the hospital facilities to keep the seriously sick soldier under your personal supervision for treatment. It is a fundamental principle that the sick and injured must be evacuated out of the unit as soon as possible so that it may devote all its energies to its mission. Therefore the sick from these tactical units are usually evacuated within 24 hours to some established hospital. At Fort Sill this is to the Station Hospital.

Although the number of cases of infections among the selectees seems to be pretty large, when you consider that at Fort Sill we have a highly transient and ever changing population of some 20,000 to 25,000 soldiers, I believe it can be said that the incident of infection is low and that life in an army camp is on the whole a pretty healthy one.

You will, I am sure, enjoy your year of "extended active duty" service, and it looks now as if the accent may be on the "extended."

Editor's Note: Colonel R. W. Bliss, Post Surgeon, and Commanding Officer of the Station Hospital at Fort Sill, Oklahoma, was prevented, because of sickness, from giving his talk on "Recent Medical Experiences in London" as scheduled. His time on the program was filled by Colonel Bailey, who is a medical reserve officer on duty at the Station Hospital, as Chief of the Laboratory Service.

• THE PRESIDENT'S PAGE •

We have recently seen in the press discussion relative to the physical condition of the youth of our country who have been called by the Selective Service Board for examination. It is apparent that there is a rather high percentage of those young men, who should be in the finest physical condition, who are not fit for military service on account of physical defects and, according to the reports from the Selective Service Boards, a very high percent of these young men could be rehabilitated.

This large number of unfit young men, found as a result of the present preparedness activity, is to a certain extent our fault. It is a notorious fact that we are not as persistent as we might be in our advice to have minor defects in children corrected.

Now, since this large number of those who have been examined and rejected as unfit on account of some disability of a correctable nature, these defects being largely dental pathology, hernia, and other malformations, it seems entirely reasonable that these young men should be given an opportunity to have their defects corrected and, as it is common knowledge that a very large proportion of these young men are not able to finance their rehabilitation, it should be a good investment on the part of our government to arrange to have their defects removed or corrected.

The formula for carrying out this suggestion should be easy. Almost every community in which there is a Selective Service Board has dentists and doctors who are able, capable, and willing to assist in returning these young men, so far as possible, to a normal physical condition, and it occurs to the writer that it would be as reasonable for our government to compensate adequately the men of the dental profession and our profession, who have been instrumental in returning the draftee to a condition where he would be physically able to serve his country, as it is for this draftee to be housed and clothed when in the service of his country.

If, and when, a motion is made by the government to rehabilitate these men, of course, the medical profession and the dental profession will be called on to do it. This will necessitate a uniform and properly coordinated effort on the part of our organization to see that the government's necessities are met properly and efficiently.

A handwritten signature in cursive script, reading "L. B. Bawing". The signature is written in dark ink and is positioned above the printed name "President.".

President.

• EDITORIALS •

REHABILITATION

Again the feeling hand of paternalism reaches out. Federal aid for Rehabilitation of Rejected Registrants is urged. General Lewis B. Hershey, Director of Selective Service, termed the physical status of American youth as revealed by Selective Service tests to be "shameful."

According to a recent Selective Service Bulletin, the Office of the Coordinator of Health, Welfare, and Related Defense activities has announced it will seek Federal financing of a vast program of rehabilitation on rejected men. What will the program be and how will it be carried out?

First: Is the physical status of the American youth "shameful?"

In his discussion on the Chicago Round Table of May 11, Doctor Rountree says that we are rejecting between 40 and 45 percent of the men coming up for physical examination between the local board examiners and the induction board examiners, and that 40 percent of those have bad teeth. About 12 percent of those examined are placed in class 1-B. These are registrants who have remedial defects.

Statistics for the state of Oklahoma indicate that of 8,524 registrants examined by the induction board, 22.43 percent were rejected. Out of the 190 rejections in July, 51 were for illiteracy or psychopathic tendencies.

During no previous time have the examinations for enlistment into the United States Army been so rigid, or the physical and mental requirements so high as they are today. During the first world war, even our present 1-B registrants were admitted for service.

In 1917 the military service accepted many men who were not physically or mentally fit. We learned a grave lesson from this mistake; and we are still paying dearly for it. Naturally then, the physical and mental requirements were raised for admission to our present military service.

Never have we had the means and the instruments of precision for the diagnosis of early and obscure abnormalities that we use today. Had these same complete examinations been available and required during the first world war, and the same rigid physical and mental requirements been adopted, would not the percentage of rejection have been much higher?

We are being told by some of the social-

gists that this so-called "shameful?" condition of health is our fault. This we deny.

We have preached periodical health examinations, preventive medicine, and tried other means of health education until we are red in the face. But still those who need these services do not come in as long as they can work, or as long as they believe in Christian Science or other healing cults equally dangerous. It is difficult to change human nature.

Most of these rejected men have had adequate medical care available to them. Most of them have either ignored it or rejected it. How many of them will willingly correct these defects in order to fit themselves for military duty?

From the store of information being compiled by the Selective Service Headquarters, there will come out some most interesting statistics on the health of the Nation as interpreted through Selective Service physical examinations. As a result of this statistical survey, definite recommendations are going to be made to the social agencies for the correction of these defects. Among those to be recommended, most probably will be prehabilitation and rehabilitation — others may follow. A coordination of agencies will be necessary to complete such projects. Heading these agencies should be the American Medical Association and the American Dental Association. These may be assisted by the Public Health Service and Social Agencies.

Historic changes through which we are passing require us to change our patterns of life. This we can do, have done, and will do gratefully. Medicine will keep abreast of the changing order, still remembering the normal and basic methods which have brought medicine to the position it now holds and deserves.

All physicians, individually and collectively, should be thinking studiously about these questions. Whatever the new program may be, it should be planned and directed by the medical profession and not by lay agencies. —T. L.

BACKACHE

To all of us low back pain is a problem and has been attacked by the orthopedist, gynecologist, proctologist, etc. and as there are many causes some are not equipped to make an exhaustive study and others are either too busy or too lazy.

As to causes, the one most popular at this time seems to be protruding intervertebral disk. In fact, it has become so popular that the percentage of recoveries following operation now average about 50 percent. This does not mean that such pathology is not causative of low back pain and sciatica but that the intervertebral disk is being imposed upon and condemned when not at fault. Diagnosis of this condition can be quite accurately made and without the injection of opaque media, this procedure is not without real danger, as the ideal substance for myelography is still to be found. When exhaustive study has been made and the diagnosis determined the results of operation are very gratifying.

The patient with low back pain is entitled to conservative treatment which as outlined by Krusen consists of rest, traction, application of radiant heat, sedative massage, and manipulation under general anesthesia.

Steindler has designated certain "trigger points" which, when irritated, aggravates the pain and when injected with a local anesthetic gives relief. This work is of great value and should be thoroughly studied by anyone proposing to make a diagnosis of the cause of low back pain and sciatica.

Rectal examination is necessary as there is nerve communication which might give

deflected pain to the sciatic from rectal lesions.

Body mechanics, congenital defects, acquired bony fixations and arthritic changes must all be taken into consideration.

This short editorial is not a discussion of the subject of low back pain and sciatica, but is presented to stimulate the examining physician to more exhaustive efforts to determine the cause and apply the proper remedy to relieve this class of patients who only too often seek relief from the uninformed after having been but superficially examined by their family physician.—L. S. W.

From the U. S. Office of Civilian Defense

To Secretaries of State Medical Societies and Editors of Journals:

According to a joint statement issued on September 4 by the U. S. Director of the Office of Civilian Defense, F. H. LaGuardia, and the Chairman of the American National Red Cross, Norman H. Davis, State and local defense councils are the official agencies responsible for the coordination of all available resources which may be required for civilian protection in the event of belligerent action. Defense Councils should therefore acquaint themselves with the resources of the local Red Cross Chapters in providing food, clothing, shelter, nursing care, transportation, and other basic necessities and should integrate them into the comprehensive local program. Duplication of trained and experienced personnel and of available supplies of the Red Cross should be avoided except where supplementation is essential to meet the anticipated needs of the community.

For the local Treatment of Acute Anterior Urethritis

(DUE TO NEISSERIA GONORRHEAE)

SILVER PICRATE*
Wyeth

Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by *Neisseria gonorrhoeae*.¹ An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

A complete technique of treatment and literature will be sent upon request

*Silver Picrate is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," *Am. J. Syph., Gon. & Ven. Dis.*, 23, 201 (March), 1939.

JOHN WYETH & BROTHER, INCORPORATED, PHILADELPHIA

ASSOCIATION ACTIVITIES

Clinical Society Meeting Has Record Success

The eleventh annual conference of the Oklahoma City Clinical Society has just come to a close. The officers, in reviewing the meeting feel that it has been the most successful in the history of the society, mechanically, academically and socially. The inner workings of the organization were functioning as smoothly as a well oiled piece of machinery—the well balanced program was presented by outstanding leaders in medicine who have ability to teach—and we were fortunate in having an affable, cooperative group of guest speakers, officers, and attendants.

The registration was up to par, the out-of-town doctors registering in a larger number than ever before. The Oklahoma City Clinical Society plans its program primarily for the doctors in the surrounding territory, and wishes to thank them for their unfailing support which has contributed so largely to the continued success of its meeting. The increased registration this year is particularly gratifying in the face of the depletion of those in private practice due to the national defense program.

It seems there are few things to say about the meeting that have not been said before, but the officers are already laying plans for the 1942 conference which they feel will be more comprehensive than any ever held before. Letters are in the mail inviting another group of medical teachers over the country to be guest speakers next year.

The officers of the Clinical Society want you to feel that this is your meeting, and if you have any suggestion about its operation, they would be very glad to have it. Address your communications to the Oklahoma City Clinical Society, 512 Medical Arts Building, Oklahoma City, Oklahoma.

Oklahoma Dermatologists Entertain Texas Group

Members of the Texas Dermatological Association were the guests Sunday, October 19, of the Oklahoma Dermatological Association at a meeting at the University Hospital, Oklahoma City.

Dr. Onis G. Hazel, Oklahoma City, and Dr. John Lamb, Oklahoma City, presented 22 cases for diagnosis and study, and a discussion of three hours' duration followed.

After the meeting, the Oklahoma physicians entertained their guests with a barbeque supper at the country cabin of Dr. Everett S. Lain.

The Oklahoma group will meet again in the spring of 1942, in Tulsa, with Dr. Harry Green, Tulsa, president, in charge of arrangements for the session. In the fall of 1942, the Oklahoma members will be the guests of the Texas Dermatological Association at its regular fall meeting.

About 37 physicians attended the October 19 meeting. Among the Texas guests present were Dr. Bedford Shelmire, Dr. Everett Fox, Dr. E. L. Loftis, and Dr. Arthur G. Schoch, all of Dallas; Dr. C. Ferd Lehmann, San Antonio; Dr. Leslie M. Smith, El Paso; Dr. Shirley S. Bowen, Dr. Everett Seale, Dr. Culver Griswold and Dr. W. Harris Conner, all of Houston; Dr. William Porter Brown and Dr. Sidney J. Wilson, both of Fort Worth; Dr. William F. Spiller, Galveston; Dr. Paul Power, Waco; Dr. Charles Duncan Stewart, Corpus Christi; Dr. Raymond P. Hughes, of El Paso and Fort Sill, Okla., and Dr. John Gilmore Breen, of Dallas and Abilene.

Committee Named to Confer With Pharmaceutical Group

Dr. Finis W. Ewing, President, Muskogee, has announced the appointment of a committee to confer with a committee from the Oklahoma Pharmaceutical Association about regulating the sale of certain drugs which may be a menace to health when used by the lay public without proper prescriptions.

Dr. Grady Mathews, Oklahoma City, is chairman of the committee, and Dr. Turner Bynum, Chickasha and Dr. L. J. Starry, Oklahoma City, are members.

A typical list of the drugs in question would include: Barbiturates, Cinchophen, Cantharides (for internal use), Sulfapyridine, Aconite, Colchicine, Chrysarobin or Goa Powder, Emetine, Radium, Phenobarbital and Derivatives, Neocinchophen and other Cinchophen Derivatives, Aminopyrine, Sulfathiazole, Benzedrine Sulfate (for internal administration), Chrysophanic Acid, Phosphides, Thiocyanates, Sulfanilamide, Thyroid, Colchicum, Phosphorus.

And the anthelmintic drugs: Tetrachlorethylene, Wormseed oil (Chenopodium Oil), Carbon Tetrachloride (for internal use), Male Fern (Aspidium), Santonin, Thymol.

DuPont Company Wants Oklahoma Doctors

The Executive Office of the Association has been advised that the E. I. DuPont company, who will operate the government powder plant being constructed at Chouteau, Okla., is anxious to employ Oklahoma physicians for its Medical Department.

The company has indicated that doctors applying should be graduates of Class A schools and have finished an internship, be between the ages of 26 and 50, possess an Oklahoma license to practice medicine, and be a native-born citizen.

The compensation base is approximately \$400.00 per month, and any doctor interested in qualifying can have immediate employment.

Those doctors interested should get in touch immediately with either the Executive Office of the Association, 210 Plaza Court, Oklahoma City, or with T. L. Watson, M.D., Medical Department, E. I. DuPont and Company, Pryor, Okla.

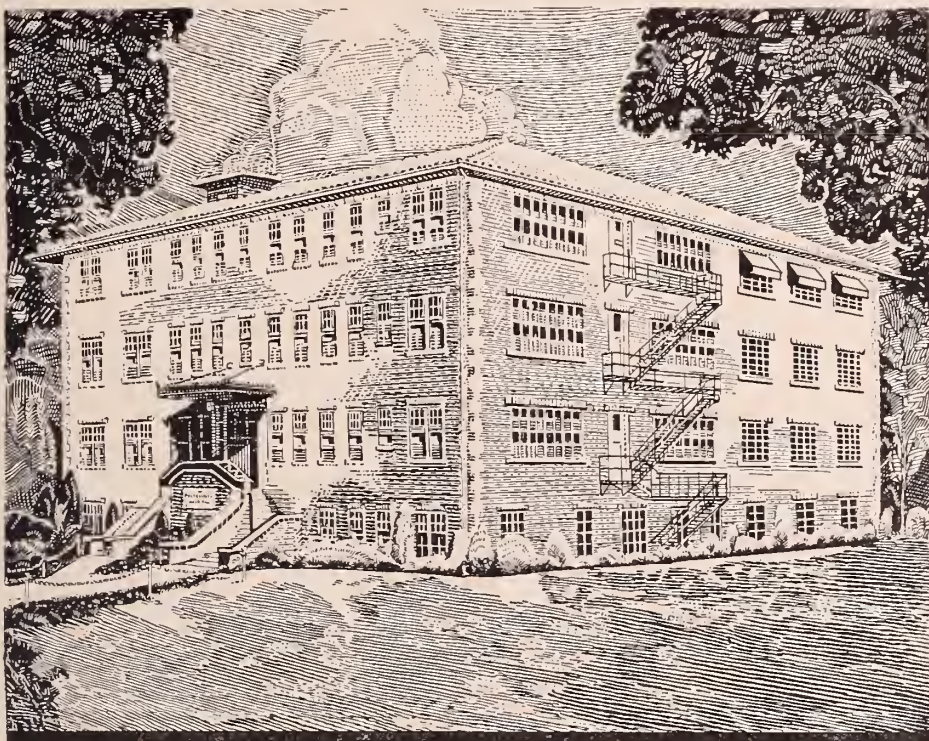
Southeastern Oklahoma Medical Group Holds Fall Meeting in Poteau

More than 25 members and guests were in attendance at the 1941 fall meeting of the Southeastern Oklahoma Medical Association, October 7, at the Judkins-Forbes hotel, Poteau.

Soon after the meeting was convened, Dr. Paul Rice of Antlers invited the Association to hold its 1942 spring meeting in Antlers, and the invitation was accepted.

Two guest speakers were highlighted on the scientific program for the day. They were Dr. Arthur F. Hoge, Fort Smith, Ark., and Dr. Harry Wilkins, Oklahoma City. Doctor Hoge discussed "Methods of Treatment of Cirrhosis of the Liver," and Doctor Wilkins joined the Symposium on Neurology to lead a general discussion on the Symposium.

Other speakers who read papers in the Symposium included Doctor Saylor of the Government hospital, Tahlequah; Dr. M. L. Henry, and Dr. E. N. Fair, both of Heavener, and Dr. T. H. McCauley and Dr. Julius Levine, both of McAlester.



Etching from a pen study of Polyclinic by Edward Henderson

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Polyclinic is a hospital founded, planned and built by a physician. In it are incorporated the best ideas of modern design and equipment. Here the physician finds every convenience to contribute to the efficiency of his service.

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Attorney General's Decision On Corporations' Optometry Practice

A decision recently handed down by the Attorney General's office concerning the attempt by certain corporations to operate Optometrical Departments by the employment of licensed physicians is herewith printed in full.

The decision of the Attorney General in ruling that this was a violation of the practice of Optometry, it is believed will be concurred in by the members of the profession. The Attorney General, Mac Q. Williamson and the Assistant Attorney General, Fred Hanson, are to be complimented upon the thoroughness of their decision.

August 25, 1941.

Dr. James D. Osborn, Jr.,
Secretary, Oklahoma Board of Medical Examiners,
Frederick, Oklahoma.

Dear Sir:

The Attorney General acknowledges receipt of your letter dated August 13, 1941, wherein you, in effect, state that a licensed physician and surgeon of Oklahoma has been employed on a weekly \$50.00 salary and 2% gross receipts commission basis for the past year by an optical company, same being a foreign corporation, to have charge of and to perform optometrical services in its optical department located in space rented on a weekly 25% gross receipts basis from and in the store building of a mercantile company, same being a foreign corporation licensed to do business in this State; that while no direct charge is made by said physician or optical company for the optometrical services of said physician, an indirect charge is made therefor by said department in the sale price of spectacles, frames, lenses, etc. sold thereby; that if said physician's examination of a customer reveals the ocular abnormality complained of, such as squint, etc., is caused by syphilis or some other pathological condition which should be treated by drugs or surgery, he so advises the customer and nothing further is done in the premises; that all moneys paid by customers for said glasses, frames, lenses, etc., is paid directly by said optical department or its customers to the cashier of said mercantile company, and that all credit charges are collected by him; that said gross receipts are retained by said company and weekly paid thereby, after deducting the percentage thereof agreed upon as rent and incidental expenses, such as cost of advertising, if any, to said optical company; and that said \$50.00 salary and 2% gross receipts commission are paid directly by said optical company to said physician for his services. It also appears from said letters that said mercantile company now desires to put an ad in certain newspapers of this State advertising said department as the optical department of said mercantile company without using the name of said optical company or physician therein.

In connection with the statement of facts above set forth you ask if same reveals a violation of the medical practice act of this State, or of any law thereof.

In reply you are advised that Section 1, Article 29, Chapter 24, Oklahoma Session Laws 1937, which amends Section 4659, Oklahoma Statutes 1931, is as follows:

"The practice of Optometry is defined to be the science and art of *examining the human eye and the correcting or relief of ocular abnormalities by the employment of any means*, including the use or furnishing of any self-testing device, other than the use of drugs, for the measurement of the powers of vision and the adaptation of lenses or prisms for the aid thereof."

Section 2, Article 29, Chapter 24, Oklahoma Session Laws 1937, which amends Section 4662, Oklahoma Statutes 1931, requires every person desiring to practice Optometry in Oklahoma to secure a license or certificate of registration as an optometrist from the Board of

Examiners in Optometry of this State, to secure which he must be twenty-one (21) years of age, of good moral character, and have had a high school education, be a graduate of a standard school of optometry conferring the degree of Doctor of Optometry (board rules require a four years' course of instruction), and pass an examination by the Board in the following subjects, to-wit:

"Anatomy of the eyes, use of the ophthalmoscope, retinoscope and the use of trial lenses, general anatomy, physiology, physics, chemistry, biology, bacteriology, ocular pathology, ocular neurology, ocular myology, psychology, physiological optics, optometrical mechanics, clinical Optometry, visual field charting and orthoptics, the general laws of optics and refraction, as is essential to the practice of Optometry."

In connection with Sections 1 and 2 of Article 29, supra, it will be noted that the practice of optometry in this State includes the science and art of "examining the human eye," as well as of "correcting or relief of ocular abnormalities," and that the required examination of applicants for a license to so practice covers many subjects, including Biology, Bacteriology, Ocular Pathology, Ocular Neurology and Ocular Myology, and that while knowledge by an optometrist in said stated subjects is not necessary while he is engaged in the "correcting or relief of ocular abnormalities," such knowledge is necessary to enable him to determine, when examining the human eye, if the ocular abnormality complained of, such as squint, etc., is caused by syphilis, focal infection, diabetes or other pathological conditions which should be treated by the use of drugs or surgery by physicians and surgeons, rather than corrected or relieved by the use of lenses or prisms by optometrists. It is, therefore, clear that such *examinations* not only require a high degree of technical skill and knowledge, but often involve a close personal relationship of trust and confidence between the optometrist and his patient, which should not be shared by an unlicensed corporation or person.

Section 3 of Article 29, Chapter 24, Oklahoma Session Laws, 1937, which amends Section 4664, Oklahoma Statutes 1931, authorizes the Board of Optometry to revoke the license of an optometrist who accepts employment, either directly or indirectly.

"from an unlicensed Optometrist or person engaged in any profession or business or owning or operating any profession or business to assist it, him, or them in practicing Optometry in this State."

Said Section 3 also provides:

"No person or persons shall practice Optometry under any name other than his or her own proper name and it shall be the same name as used in his or her license as issued by the Board of Examiners; * * * ."

Section 4669, Oklahoma Statutes 1931, is in part as follows:

"No person, not a holder of a certificate of registration or exemption, duly issued to him and recorded as above provided, shall practice Optometry in this State. * * * Practicing, or offering to practice Optometry, or the public representation of being qualified to practice the same by any person not authorized to practice Optometry, shall be sufficient evidence of the violation of this Act. Any person, who shall violate any of the provisions hereof, shall be deemed guilty of a misdemeanor, and upon conviction thereof for each offense, shall be punished by a fine of not less than Fifty (\$50.00) Dollars, nor more than Five Hundred (\$500.00) Dollars, or imprisonment in the county jail not less than thirty (30) days, nor more than ninety (90) days or by both such fine and imprisonment."

Section 4, Article 29, Chapter 24, Oklahoma Session Laws 1937, which amends Section 4670, Oklahoma Statutes 1931, is as follows:

"Nothing in this Act shall be construed to apply

to duly licensed physicians authorized to practice medicine and/or surgery under the laws of the State of Oklahoma."

The above quoted language, especially when considered in connection with the board definition of the practice of medicine set forth in Section 4635, Oklahoma Statutes 1931, hereinafter quoted, which section expressly exempts from the provisions thereof

"and legally licensed optometrist when engaged in the practice of optometry, as defined by law, * * *," clearly reveals that our Legislature deemed the practice of optometry to be one branch of the practice of medicine. Certainly said optical company was of that opinion when it employed said physician for the purpose set forth in the first paragraph of this opinion. In this connection attention is called to the first paragraph of the syllabus of the recent case of *Bebber v. Fisher* (Colo., 1940), 102 Pac. (2d) 741, same being as follows:

"The 'practice of optometry' is but one branch of the 'practice of medicine,' and a license for the latter covers the former."

Moreover, it is significant to note that the only effect of said 1937 amendment of Section 4670, supra, was to delete therefrom the following provision:

"* * * nor to persons who neither practice nor profess to practice Optometry, who sell spectacles, eye glasses or lenses, either on prescription from such physicians or from qualified Optometrists, or as merchandise from permanently located and established places of business,"

which deletion clearly reveals a legislative intent to restrict the practice of optometry to licensed physicians and optometrists, and to deprive unlicensed persons and merchants selling spectacles, etc. of any assumed or supposed right to practice optometry in this State through licensed physicians or optometrists. In this respect, the law of Oklahoma, since said deletion, is different from the Missouri law construed in the case of *State, ex inf. McKittrick, Attorney General, v. Gate City Optical Company* (Mo., 1936), 97 S.W. (2d) 89, wherein the second paragraph of the syllabus states:

"The Legislature in requiring a certificate of registration for one to practice optometry (Chap. 101, R.S. 1929), and exempting from the operation of the statute persons or corporations who deal in eyeglasses in a store, shop or other established place of business, must have intended that such dealers might do things right and proper incident to such deals." (Note: Meaning the employment by said dealers of licensed optometrists "to fit and sell glasses, frames, lenses, and optical goods for and on their behalf," as stated in said case.)

It will also be noted that Section 4633, Oklahoma Statutes 1931, in effect, prohibits, "firms, associations or corporations" doing business in Oklahoma from practicing medicine and surgery therein, unless same are formed solely by persons "duly licensed to practice medicine and surgery in the State of Oklahoma."

In 13 Am. Jnr. (1938), page 838, Section 837, under the subject "Corporations," appears the following general rule:

"While a corporation is in some sense a person and for many purposes is so considered, yet as regards the learned professions which can only be practiced by persons who have received a license to do so after an examination as to their knowledge of the subject, it is recognized that a corporation cannot be licensed to practice such a profession. For example, there is no judicial dissent from the proposition that a corporation cannot lawfully engage in the practice of law.

"A corporation cannot be licensed to carry on the practice of medicine. Nor, as a general rule, can it engage in the practice of medicine, surgery, or dentistry through licensed employees. It is generally held that in the absence of express statutory authority, a corporation may not engage in the practice of optometry either directly or indirectly

through the employment of duly registered optometrists."

The above general rule is in harmony with that set forth under the subject "Corporations" in 14-A Corpus Jnr. (1921), pages 296-298, Section 2145, and in 19 Corpus Jnr. Secundum (1940), pages 400-456, Section 956.

That part of the above general rule which relates to the practice of law by corporations is supported by the case of *State Bar of Oklahoma v. Retail Credit Association* (1935), 170 Okla. 246, 37 Pac. (2d) 953, wherein the material part of the second paragraph of the syllabus is as follows:

"Under provisions of the State Bar Act, chapter 22, O. S. 1931, the State Bar may maintain an action to enjoin the unauthorized practice of law by a corporation and its agents, * * *."

That part of the above general rule which relates to the practice of medicine, surgery and dentistry by corporations is supported by the case of *Kerner, Attorney General, v. United Medical Service, Inc.* (Ill., 1936), 200 N.E. 157, 103 A.L.R. 1229, wherein the first paragraph of the syllabus is as follows:

"A corporation's ownership of a medical clinic with offices where the treatment of disease is engaged in solely by licensed and registered physicians and surgeons employed by the corporation, which receives the fees charged the patients, constitutes the practice of medicine by the corporation within a statute prohibiting such practice except by licensed persons." (Note: See annotation at conclusion of said A.L.R. citation.)

That part of the above general rule which relates to the practice of optometry by corporations is supported by the following cases:

1. *State v. Kindly Optical Company* (Iowa, 1933), 248 N.W. 332,
2. *Eisensmith v. Buhl Optical Company* (W. Va., 1934), 178 S.E. 695,
3. *Funk Jewelry Company v. State, ex rel. La Prade* (Ariz., 1935), 50 Pac. (2d) 945,
4. *State, ex rel. Beck v. Coldman Jewelry Company* (Kans., 1935), 51 Pac. (2d) 995, 102 A.L.R. 334,
5. *Harris v. Myers* (Ohio, 1934), 191 N.E. 99,
6. *Stern v. Flynn* (N. Y., 1935) 278 N.Y.S. 598,
7. *Eddy v. Board of Optometry* (W. Va., 1935), 182 S.E. 870,
8. *State, ex rel. Bricker, Attorney General v. Buhl Optical Company* (Ohio, 1936), 2 N.E. (2d) 601,
9. *Teseschi v. Nathis* (N. J., 1936), 183 Atl. 146,
10. *McMurdo v. Getter* (Mass., 1937), 10 N.E. (2d) 139,
11. *Rowe v. Standard Drug Company* (Ohio, 1937), 9 N.E. (2d) 609,
12. *Bennett v. Indiana State Board of Reg. & Ex. in Optometry* (Ind., 1937), 7 N.E. (2d) 977,
13. *Neill v. Gimbel Bros.* (Pa., 1938) 199 Atl. 178,
14. *Ezell v. Rithols* (S. C., 1938), 198 S.E. 419,
15. *Kay Jewelry Company v. Board of Registration* (Mass., 1940), 27 N.E. (2d) 1, and
16. *Rowe v. Burkes Inc.* (Ohio, 1941), 31 N.E. (2d) 725.

While it is true that there are a number of cases reaching conclusions contrary to that reached here, it will be noted by an examination thereof that same express not only the minority view but that most thereof, like the *Gate City Optical Company* case, heretofore cited and distinguished, do not construe statutes such as the Oklahoma Statute involved here. In this connection attention is called to the case of *Silver v. Lansburg and Bros.* (D. C., 1940), 111 Fed (2d) 518, 128 A.L.R. 582, and the annotation which appears at the conclusion of said A.L.R. citation.

Attention is also called to Section 1808, Oklahoma Statutes 1931, which provides:

"All persons concerned in the commission of crime, whether it be felony or misdemeanor, and whether

they directly commit the act constituting the offense, or aid and abet in its commission, though not present, are principals."

In connection with the above statute attention is called to the case of Gobin and Freeman v. State, 9 Okla. Cr. 201, 131 Pac. 546, 44 L.R.A. (N.S.) 1089, wherein the Criminal Court of Appeals of this State after quoting Section 1808, *supra*, held:

"* * * Under this statute the plaintiff in error Freeman (a licensed physician and surgeon), if he aided and abetted Gobin (not a licensed physician and surgeon), in a violation of the medical practice act (Sections 4634 and 4635, Oklahoma Statutes 1931), would be guilty and subject to punishment not because he (Freeman) did not have a license to practice but because Gobin did not have, and because he (Freeman) aided and abetted Gobin in the commission of the offense. * * *"

It should also be noted that under that part of Section 3, Article 29, Chapter 24, Oklahoma Session Laws 1937, which authorized the Board of Optometry to "prescribe a minimum standard of sanitation, hygiene and professional surroundings" for the practice of optometry in this State, said Board has adopted Rule No. 4-b, same being as follows:

"The patients' entrance to each optometric office in this State shall open on a public street, hall, lobby or corridor, and said office shall have one or more windows having outside exposure."

It would therefore appear that if the optical department referred to by you, in which optometrical services are performed, as aforesaid, does not meet the requirements of the above rule, the operation thereof is a misdemeanor within the provisions of Section 4669, *supra*.

It is therefore the opinion of the Attorney General, in consideration of the facts, statutes and decisions above set forth, that both said optical company and said mercantile company are unlawfully engaged in the practice of optometry in this State, and that same are subject to prosecution by the county attorney of the county in which said practice is conducted under the provisions of Section 4669, Oklahoma Statutes 1931, *supra*. In fact, assuming that said mercantile company has no interest in said optical department, still it is subject, under the provisions of Section 1089, as construed in the case of Gobin and Freeman v. State, *supra*, to prosecution under said Section 4669, since it has at least aided and abetted said optical company in the unlawful practice of optometry in this State.

The Attorney General is of the further opinion that said physician, who has aided and abetted said companies, or at least said optical company, in the unlawful practice of optometry in this State, is likewise subject to prosecution under the provisions of said Section 4669. Whether or not his said conduct constitutes "unprofessional conduct," within the meaning of Section 4632, Oklahoma Statutes 1931, so as to subject him to proceedings to revoke or suspend his license by your Board, is not passed on here. However, in connection therewith attention is called to the general rule set forth in Corpus Juris, page 1099, Section 72.

The Attorney General is also of the opinion that said optical company is subject to ouster from this State by an action in the nature of a quo warranto brought under the fourth subdivision of Section 766, Oklahoma Statutes 1931, which provides for such an action:

"When any corporation abuses its power or intentionally exercises powers not conferred by law," and that same is likewise true as to said mercantile company, at least in so far as the practice of optometry, or of aiding or abetting in such practice, in this State, as aforesaid, is concerned.

An action to enjoin said optical company from practicing optometry in this State may also be brought. A similar action can be brought against said mercantile company, or at least an action to enjoin it from aiding and abetting said optical company in such practice. Said physician may also be enjoined from so aiding and abetting said company. Such quo warranto and/or

injunction actions, however, if brought by the Attorney General, can only be brought pursuant to the request of proper authority as provided in Sections 3, 4 and 6, Article 5, Chapter 20, Oklahoma Session Laws 1939 (See State, ex rel. Haskell, Governor, v. Huston, Judge, 1908, 21 Okla. 782, 97 Pac. 982), but if brought by a county attorney, may be brought upon his own initiative.

Before concluding this opinion the Attorney General desires to state that the operation of said optical department, as aforesaid, regardless as to whether an optometrist or a physician is employed to perform optometric services therein, not only constitutes the unlawful practice of optometry by a corporation, but *probably* also constitutes the unlawful practice thereby of a branch or phase of medicine within the meanings of Sections 4634 and 4635, Oklahoma Statutes 1931. In support of this conclusion attention is called to the above quoted provisions of Section 4, Article 29, Chapter 24, Oklahoma Session Laws 1937, and of Section 4635, Oklahoma Statutes 1931, the above quoted excerpt from the case of Bebbler v. Fisher, *supra* (all of which appear on page 4 of this opinion), and the case of Baker v. Texas (1921), 240 S.W. 924, wherein the first paragraph of the syllabus is as follows:

"One practicing optometry whose business is to detect and characterize disorders of the eyes by means of scientific devices, and correct defects of vision by means of lenses, is, although he does not attempt to prescribe medicine for diseased conditions, within the terms of a Medical Practice Act declaring that any person shall be regarded as practicing medicine who shall publicly profess to treat any physical deformity by any system or method."

However, in as much as the Attorney General has been unable to find any case directly passing on this question, same is not passed on here.

Very respectfully,

FOR THE ATTORNEY GENERAL

Fred Hansen.

Assistant Attorney General.

More than a "Vitamin Bread"



This loaf brings you the natural, fresh FLAVOR of the wheat, along with Vitamin B1 and the other wheat vitamins. You and your family will like it!

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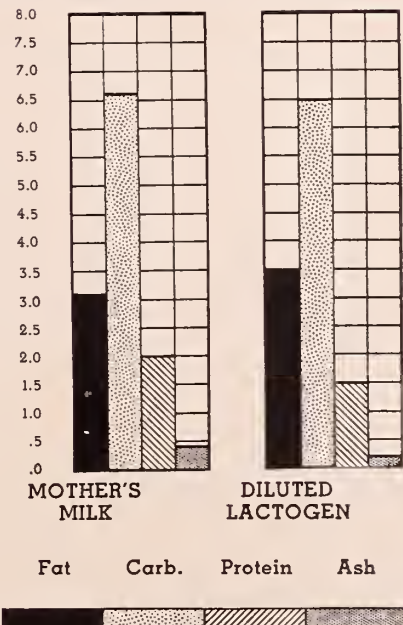
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John Lovett Morse, A. M., M. D.
Clinical Pediatrics, p. 156.



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• OBITUARIES •

Dr. Allen G. Flythe 1896-1941

The Oklahoma State Medical Association and the Bryan County Medical society lost one of their most beloved members, when Dr. Allen G. Flythe, Durant, died, September 21, at his home in Durant.

Doctor Flythe's death was caused by Rocky Mountain spotted fever which he contracted when attending a family of patients who were suffering from the disease.

Born at Jackson, N. C., May 1, 1896, Doctor Flythe attended Duke University and was graduated from Jefferson Medical college, Philadelphia. Following his graduation, he went to Dallas in 1923, where he was professor of pathology at Baylor Medical college. A year later, he began private practice in Dallas.

In 1939, he moved with his family to Durant, where he became associated with Dr. O. J. Colwick in the Durant clinic, and where he became active in the Oklahoma State Medical Association and Bryan County Medical society.

Doctor Flythe is survived by his wife, Mrs. Cathrine Flythe; two daughters, Sharon Flythe and Kay Flythe, all of Durant, and four brothers, Arthur P. Flythe, Jackson, Tenn.; Julian Thomas Flythe, Washington, D. C., and S. S. Flythe and Jess Abner Flythe, both of Fieldale, Va.

Dr. Jacob C. Warmack 1870-1941

Oklahoma was deprived of one of her pioneer physicians in the death, September 26, of Dr. Jacob C. Warmack, Oklahoma City. Doctor Warmack, 71 years old, succumbed to a heart ailment.

He was born September 11, 1870, in Piedmont, Mo., and attended Hales college in Wayne county, Mo., and the Gate City Medical college at Texarkana, Tex. Following his graduation from medical college, he moved in 1907 to Oklahoma, where he began his practice in Muskogee. In 1922, he moved to Oklahoma City, where he continued his practice.

Doctor Warmack was an active member of the Oklahoma State Medical Association, the Oklahoma County Medical society, and the Surgeon's club at the Mayo Brothers' clinic in Rochester, Minn.

He is survived by his wife, two sons, Cecil Warmack and J. Cruce Warmack, and a daughter, Mrs. E. M. Pate, all of Oklahoma City, and another daughter, Mrs. Steele C. Smith, Anderson, Ind.

Dr. Carl T. Arrington 1897-1941

Dr. Carl T. Arrington, Oklahoma City, a graduate of the University of Oklahoma School of Medicine and a practicing physician in Oklahoma City for ten years, died October 18, in his home. His death was caused by an overdose of sleeping tablets.

Doctor Arrington was born October 31, 1897, at Greenwood, Ark. In 1928, he moved to Oklahoma City, where he was graduated from the School of Medicine in 1930.

A World War veteran, Doctor Arrington was negotiating at the time of his death for work as an examining physician at new defense plants. He was a member of the First Christian church, a Mason and a Shriner, a member of Sigma Nu Sigma Masonic fraternity and of the Phi Beta Pi medical fraternity.

His survivors include his wife, Mrs. Bertha Arrington, and a daughter, Joan Arrington, both of Oklahoma City; and his mother, Mrs. George Arrington; a sister, Mrs. Randolph Whittaker, and two brothers, Otis Arrington and Harvey Arrington, all of Fresno, Calif.

Dr. McClelland Wilson 1864-1941

Dr. McClelland Wilson, pioneer state physician and one of McAlester's most beloved community builders, died at his home in McAlester, October 15.

Doctor Wilson, who was born in Kentucky, June 26, 1864, and educated at a medical college in St. Joseph, Mo., was one of the first government physicians in McAlester. After his graduation from the medical college, he began practice in Arkansas, and then in Brownwood, Tex., but he settled permanently in McAlester. He gave up his government physician work under Maj. B. F. Hackett, the United States Marshall, when his practice no longer permitted him the time for extra duties.

Both Doctor Wilson and his wife were active members of the Baptist church, Doctor Wilson serving the congregation as chairman of the board of deacons for 20 years. Doctor Wilson was also a Mason, an early member of the McAlester Lions club, and an active member for years of the Chamber of Commerce.

He retired from active practice in 1934, being succeeded by his son, Dr. Herbert Wilson.

He is survived by his wife, his son, Dr. Herbert Wilson, and two grandchildren, Macks Wilson and Jerry Wilson, all of McAlester; a sister, Mrs. Emily Crank, Climax, Mich., and a brother Henry E. Wilson, Davenport, Ohio.

South Texas Post Graduate Medical Assembly Will Meet December 2-4 in Houston

Members of the Post Graduate Medical Assembly of South Texas will celebrate the Assembly's tenth anniversary at the meeting December 2, 3 and 4, in Houston, Tex.

The meeting will be held at the Rice Hotel, with all lectures, technical exhibits, scientific sessions and luncheons taking place in the hotel.

Fifteen guest speakers from all over the United States will be featured on the scientific program.

ATTENTION!

The following letter from the United States Secret Service office has been received in the office of the Association, and should be called to the immediate attention of every Oklahoma doctor:

**Treasury Department Field Force
United States Secret Service
Oklahoma City, Oklahoma
October 18, 1941.**

Oklahoma State Medical Association,
Plaza Court,
Oklahoma City, Oklahoma.
Gentlemen:

This service is seeking to arrest the below named and described man for issuing fake checks on the non-existent "Quartermaster Bank of the United States Army." This man is tubercular and requires periodical treatments, in some of which, in various parts of the United States, he has defrauded attending physicians by giving them these fake checks in payment. It is suggested that you warn physicians treating tubercular cases to be on the watch for this man in Oklahoma, and, if he appears, to take measures to cause his arrest and notice given thereof to this office.

MARVIN LEVINSOHN, alias Martin Davis; white; Jewish; 40; 5-8; slender; dark hair; sharp features; large nose; wears a soldier's uniform on occasions. His photograph is on file at police stations and in offices of retailers associations in the larger cities of Oklahoma.

Very truly yours,
**John E. Osborne,
Agent in Charge.**

**Office: 202 Post Office Bldg.
Phone: 2-2626 (day); 7-4388 (night).**

KARO FORMULAS FOR NORMAL INFANTS

AGE—TWO WEEKS

Milk.....10 ozs.
Water.....10 ozs.
Karo syrup.....2 tbs.
3 ozs. every 4 hrs.—6 feedings

AGE—ONE MONTH

Milk.....12 ozs.
Water.....13 ozs.
Karo syrup.....2½ tbs.
4 ozs. every 4 hrs.—6 feedings

AGE—TWO MONTHS

Milk.....15 ozs.
Water.....13 ozs.
Karo syrup.....3 tbs.
4½ ozs. every 4 hrs.—6 feedings

AGE—THREE MONTHS

Milk.....17 ozs.
Water.....9 ozs.
Karo syrup.....3 tbs.
5 ozs. every 4 hrs.—5 feedings

AGE—FOUR MONTHS

Milk.....20 ozs.
Water.....11 ozs.
Karo syrup.....3½ tbs.
6 ozs. every 4 hrs.—5 feedings

AGE—FIVE MONTHS

Milk.....23 ozs.
Water.....11 ozs.
Karo syrup.....4 tbs.
6½ ozs. every 4 hrs.—5 feedings

AGE—SIX MONTHS

Milk.....26 ozs.
Water.....10 ozs.
Karo syrup.....4 tbs.
7 ozs. every 4 hrs.—5 feedings

The amount of Karo in each formula is optional. During the summer, it may be reduced according to the baby's digestive reaction.



A FORMULA of whole cow's milk, carbohydrate and water may be calculated for the individual infant according to the following requisites:

- (1) The amount of cow's milk necessary will be 1.5 to 2.0 ounces per pound (100 to 130 cc per kilo) of expected body weight per day; or, one-half to two-thirds of the total calories required for the infant.
- (2) The amount of added Karo syrup required will be about one-tenth of the quantity of milk used, i.e., 0.15 to 0.2 ounces per pound (0.1 to 1.13 grams per kilo) of expected body weight per day, or one-third to one-half the total calories required for the infant.
- (3) The total caloric value of the formula should be approximately 50 to 55 calories per pound (110 to 115 calories per kilo) of body weight per day.
- (4) The amount of water added to the formula will be two to three ounces per pound (130 to 200 cc per kilo) of body weight per day; and the amount of water added to the formula for the 24-hour period depends upon the degree of dilution required to render the mixture digestible.
- (5) The amount of formula offered at a feeding during the first few months is expressed by the rule—Age in months plus two ounces at four-hour intervals."

KUGELMASS: "Newer Nutrition in Pediatric Practice." 1940.

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NEWS FROM THE COUNTY SOCIETIES

Members of the Caddo, Stephens and Grady County Medical societies have reorganized their Tri-County Clinical society, which has resumed monthly meetings. At the reorganization meeting, September 26, in Chickasha, Dr. L. E. Woods, Chickasha, was elected president of the Society.

Following the business meeting, two guest speakers, Dr. J. B. Eskridge, Jr., and Dr. Edward N. Smith, both of Oklahoma City, were presented in the scientific discussion for the evening. Announcement was made by Dr. H. M. McClure, Chickasha, that Dr. Frank Joyce was establishing a blood bank at the Chickasha Hospital for use of all physicians.

The October meeting of the Tri-County Clinic society also was held in Chickasha, with 25 members in attendance. Dr. W. W. Rucks, Jr., and Dr. D. W. Branham, both of Oklahoma City, were guest speakers for the program. Doctor Rucks discussed "Pericarditis," and Doctor Branham spoke on "Traumatic Injuries to the Urinary Tract."

Two new members were introduced at the September 23 meeting of the Stephens County Medical society, in Duncan. They were Dr. E. H. Lindley and Dr. Mark H. Dounavau. Doctor Lindley is associated with his brother, Dr. E. C. Lindley, and Doctor Donovan is associated with the Weedon hospital at Marlow.

Dr. Louis H. Ritzhaupt, Guthrie, medical officer for the state draft board, discussed "Draft Requirements in Medical Examinations" for the group.

Fifteen members of the Woodward County Medical society were present at a dinner meeting, October 9, in Woodward, to hear Dr. Joseph D. Duer of Woodward give an illustrated lecture on "Chest Conditions."

The society will meet again November 13 in Woodward.

A Symposium on Mouth Diseases was held by members of the Pittsburg County Medical society at their meeting, October 24, in McAlester at the Albert Pike Hospital.

Guests at the meeting were dentists, three of whom were guest speakers on the program. They were Dr. C. V. Kieses, who discussed "Fractures of the Jaw"; Dr. E. Porth, who talked on "Infections of the Mouth," and Dr. J. N. Berry, who discussed "Cervical Adenitis and Salivary Tumors." Discussion of the three lectures was held by the society members.

October 6, members took part in the program of the Southeastern Oklahoma Medical Association meeting in Poteau.

Members of the Washington-Nowata County Medical society heard Dr. Thomas Wells speak on "Diagnosis and Treatment of Coronary Occlusion" at the meeting, October 8, in Bartlesville. Dr. K. D. Davis, Nowata, led the discussion on this paper. "Methods of Control of Nasal Hemorrhage" was the title of the next talk, given by Dr. O. I. Green, Bartlesville, with Dr. J. E. Crawford, Bartlesville, leading the discussion which followed this paper.

Concluding the program was the showing of a motion picture on "Research Work on Vitamine B Complex."

About 19 members were present at the meeting; the society will hold a staff meeting, November 12, in Bartlesville.

Dr. E. Goldfain and Dr. Ellis Moore, both of Oklahoma City, were the guests of the Garvin County Medical society, October 15, at a meeting in Pauls Valley. Doctor Moore spoke on "Hemorrhoidectomy with Special Reference to a New Technique and the Avoidance of Pain." Doctor Goldfain discussed "Non-Articular Rheumatism."

Dr. Ray M. Balyeat, Oklahoma City, will be the society's guest at the meeting in Pauls Valley, November 19, when he will talk on "Diagnosis and Treatment of Common Allergic Manifestations Encountered by the General Practitioner."

Fifteen doctors from other counties and eight dentists were the guests of the Okfuskee-Okmulgee County Medical society's meeting, October 13, in Okmulgee. The guest doctors were from Tulsa, Cherokee, and Hughes counties, and the dentists were from Okmulgee. About 18 hosts were present.

Dr. H. L. Smith, cardiologist of the Mayo Clinic in Rochester, Minn., discussed "Some of the New Aspects in the Treatment of the Failing Heart."

The society will meet again, November 10, in Okemah.

Dr. Coyne H. Campbell, Oklahoma City, was guest speaker at the meeting of the Jackson County Medical society, October 6, in Altus. The topic of Doctor Campbell's talk was "Functional Nervous Disorders."

Dr. J. M. Allgood, Altus, was in charge of the meeting, which was held in the Altus hospital.

Two sound-moving pictures were highlighted on the program of the Woods-Alfalfa County Medical society meeting, September 30, in Alva. The pictures, shown by William M. Coulter of the Mead-Johnson company, were "Roentgen Pelvimetry" and "When Bobby Goes to School."

Dr. Charles M. Pearce, senior medical officer, region eight, FSA, and F. A. Boutwell, regional health specialist, outlined the relation between the local physician and the FSA clients.

The Seminole County Medical society held its first regular fall meeting the week of October 5, in Seminole, with 13 members and ten guests present.

Dr. Clark Hall, Oklahoma City, professor of pediatrics in the University of Oklahoma School of Medicine, was guest speaker, his subject being "The Rheumatic State and Rheumatic Fever."

Two guest speakers from Tulsa were featured on the program of the regular meeting of the Cherokee County Medical society, October 7, at the W. W. Hastings hospital in Tahlequah.

Dr. Frank A. Stuart discussed "Fractures of the Hip," illustrating his lecture with a motion picture. A. J. Schmidt, of the Boxter Laboratories, the other speaker, discussed and demonstrated the method for preserving blood.

Members of the society have made plans to secure for Tahlequah a blood plasma bank.

In the October meeting of the Cleveland County Medical society, in Norman, members agreed to contribute toward final payment of the balance on an inhalator for the Norman Fire department. The society had made one contribution to the department.

Guest speaker at the meeting was Dr. William K. Ishmael, Oklahoma City, who talked on the cure of rheumatism.

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.50	75.00	100.00
1.00	375.00	500.00
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Nomination of 1942 officers was made at the business meeting, October 18, of the Pottawatomie County society in Shawnee. About 20 members were present.

Dr. John Carson, Shawnee, was appointed chairman of the Annual Meeting and Ladies Night committee, and Dr. W. B. Mullins was made a regular member of the society at the meeting.

Following the business session, Dr. F. M. Keen, Shawnee, program chairman for the evening, talked on "Rheumatic Fever," and Dr. E. E. Rice, Shawnee, led the discussion of Doctor Keen's subject.

The society will meet November 11 in Shawnee to hold its annual election of officers. Dr. Paul Gallaher, Shawnee, and Doctor Carson will be in charge of the scientific program. "B" Complex will be the topic for discussion.

About 15 members attended the meeting of the Muskogee County society, October 6, in Muskogee. Dr. Maurice Searle of Tulsa, was a guest of the society and led the program on Pediatrics.

Dr. T. H. McCarley, McAlester, will be the guest speaker at the next meeting, November 3, in Muskogee.

Auxiliary News

The first fall meeting of the Pittsburg County auxiliary was held on September 2, at the Hotel Crutcher. Nine of their 14 members were present. Due to the illness of Mrs. R. K. Pemberton, president of this group, no plans were made at this meeting. Mrs. Walter J. Dell and Mrs. Edward D. Greenberger were hostesses at the luncheon which followed a short business meeting.

The Cleveland County Medical auxiliary met at the

Central State Hospital, October 9, at 7:30 P.M., with Mrs. Jim L. Haddock, president, in charge. There were ten members and two guests present. Mrs. Opha Boyd of Norman gave a book review on "April Was When It Began," by Barry Benefield.

Hostesses for a dessert course served the Auxiliary and Medical society members were Mrs. A. H. Atkins, Mrs. Curtis Berry, Mrs. W. B. Carroll and Mrs. W. A. Fowler.

On October 7, the Tulsa County auxiliary entertained at a coffee in the home of Mrs. H. B. Stewart. There were 64 members present. Mrs. T. B. Coulter heads this auxiliary as president.

A registration coffee was given by the Oklahoma County Medical auxiliary on October 3 at the Y.W.C.A. from 10:00 A.M. to 12:00 Noon. Ninety-four members and three guests attended this coffee. The receiving line was headed by Mrs. Neil Woodward, president of the Oklahoma County Auxiliary, and other officers of this group.

The Pontotoc County Medical auxiliary held its opening fall luncheon September 18, with Mrs. O. H. Miller, president, in charge of the short business session following luncheon.

Members adjourned to the Valley View hospital to make surgical dressings. Nine members and two guests attended the meeting.

Dr. Henry Browne Will Head Urology Group

Dr. Henry S. Browne, Tulsa, was elected President of the South Central section of the American Urological Association, September 7, at the annual convention of the Association in Galveston, Tex.

Doctor Browne, who served the organization as Vice-President during the past year, headed a large delegation of Urologists from Oklahoma.



It makes their regular check-ups "fun" by giving youngsters some wholesome CHEWING GUM

It's such an easy, thoughtful gesture to always offer your little patients some delicious Chewing Gum while they're waiting or when they leave the office. They just love it—and it makes a big hit with adults, too. And for such a small cost this one, friendly, little act goes a long way in winning extra good will and affection. Besides, as you know, the chewing is an aid to mouth cleanliness as well as helping to lessen tension. Enjoy chewing Gum, yourself. Get a good month's worth for your office today.

**There's a reason, a time
and place for Chewing Gum**

"When the frost is on the punkin . . ."



TITLE FROM JAMES WHITCOMB RILEY

The pollens are gone with the frost and your allergic patients breathe freely again. But with the fall come colds and upper respiratory infections, and to obtain relief from the nasal congestion from these causes you will again have need of a reliable decongestant.

Local application of Solution Racêphedrine Hydrochloride (Upjohn) to nasal mucous membranes diminishes hyperemia and reduces swelling. In many cases Capsules Racêphedrine Hydrochloride (Upjohn) are also useful in ameliorating these symptoms.

RACÊPHEDRINE HYDROCHLORIDE (UPJOHN)

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Solution Racêphedrine Hydrochloride (Upjohn) 1% in Modified Ringer's Solution, in one ounce dropper bottles for prescription purposes, and in pint bottles for office use

Capsules Racêphedrine Hydrochloride (Upjohn), $\frac{3}{4}$ grain, in bottles of 40 and 250

Powder Racêphedrine Hydrochloride (Upjohn), in $\frac{1}{4}$ ounce bottles



Determination of gelatin solubility is one laboratory test in the assay of finished capsules.

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Dr. Dyer Appointed to Committee Office In Obstetrics-Gynecology Congress

Dr. Isadore Dyer of the Tahlequah Health Department, has recently been appointed Secretary of the membership committee of the American Congress on Obstetrics and Gynecology. This is a national meeting which boasts for its membership practically every prominent obstetrician and gynecologist in the United States and Canada. The Congress is sponsored by the American Committee on Maternal Welfare, and meets once every three years, the last meeting having been held in Cleveland, Ohio, in October, 1939.

The next meeting of the Congress will be in St. Louis, April 6-10, 1942, and at that time through the co-operation of the Oklahoma State Health Department, an exhibit depicting the Maternity Service which has been in operation for three and one half years in Cherokee County will be shown. The exhibit will be one of the largest and most elaborate ever produced through the State Health Department.

Four Oklahoma City Doctors Are Initiated In American College of Surgeons

Dr. Jess Herrmann, Dr. Charles M. O'Leary, Dr. Joseph S. Messenbaugh and Dr. John F. Kuhn, Jr., all of Oklahoma City, were among the 1941 class of initiates presented for fellowships in the American College of Surgeons at the Thirty-First Annual Clinical Congress of the College, held November 3-7, in Boston, Mass.

Another Oklahoman present at the Congress was Dr. R. M. Howard, Oklahoma City, Southwest Representative for the College.

Dr. W. Edward Gallie, Toronto, Canada, was inaugurated as new president of the College at the opening meeting of the Congress.

How sad to think that by the time a man works up to a house with three bathrooms, he often needs treatment for his constipation.—Bulletin, Garfield County Medical society.

Opportunities for Practice

Wanted: A physician, 25 to 40 years of age, for Locum Tenens three months, mostly office and industrial work, partnership optional if mutually agreeable. Southern Oklahoma inland oil town, no competition. Apply P. O. Box 126, County Line, Okla.

There is an excellent opportunity for practice for a physician in Hitchcock, Okla., and the surrounding vicinity in Blaine county. Any doctor who is interested in building up a practice in this part of the state should contact Mr. C. V. Walters, Town Clerk, Hitchcock, for particulars.

Classified Advertisements

For Sale: Victor Diathermy Machine in good condition, with all accessories including foot switch and clock. Address: L. C. Kuyrkendall, M.D., McAlester, Okla.

For Sale: Hospital and office equipment, including: one International 660 X-ray complete; one new Developing Tank; one Observation Stand; one Utensil Sterilizer; six Hospital Beds, complete; one Diathermy; one Air-cooled Ultra-Violet Ray; one Water-cooled Ultra-Violet Ray; one Gas Machine.

Address: Drawer K. K., Erick, Okla.

Now — PURIFIED SOLUTION of LIVER.. Smith-Dorsey Council Accepted



For rapid and effective action in the treatment of pernicious anemia, Smith-Dorsey offers a U. S. P. solution for intramuscular injection. Contains all the fraction G (Cohn) of the liver extract. The solution is rigidly standardized . . . twice tested by animal injection to prevent local tissue reaction . . . sealed in ampoules and vials . . . finally tested for sterility.

Ampoules Purified Solution of Liver U.S.P., Smith-Dorsey 1 cc. (10 U.S.P. Injectable Units per cc.)

Vials Purified Solution of Liver U.S.P., Smith-Dorsey 10 cc. (10 U.S.P. Injectable Units per cc.)

Vials Purified Solution of Liver U.S.P., Smith-Dorsey 30 cc. (10 U.S.P. Injectable Units per cc.)

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Manufacturers of Pharmaceuticals to the Medical Profession since 1908.



"At the menopause 80 per cent of women experience general symptoms of varying character and intensity".

AMNIOTIN

Relieves
Menopausal
Symptoms

JEFFCOATE,¹ in a paper on estrogenic hormone therapy, states that 80 per cent of women experience menopausal symptoms varying from the well-recognized vasomotor disturbances to those of vaguer character such as headaches, emotional instability, depression, anxiety and muscle pains. In a large percentage of cases these symptoms can be eliminated by adequate estrogenic therapy.

During the more than 10 years in which Amniotin has been available to the medical profession its clinical effectiveness in controlling menopausal symptoms has been abundantly demonstrated.

It differs from estrogenic substances containing or derived from a single crystalline factor in that it contains, in highly purified form, estrogenic substances naturally present in pregnant mare's urine. Its estrogenic activity is expressed in terms of the equivalent of international units of estrone.

Amniotin is available in Capsules containing the equivalent of 1000, 2000 and 4000 I. U. of estrone; in Pessaries containing 1000 and 2000 I. U. and in 1-cc. ampuls containing 2000, 5000, 10,000 and 20,000 I.U.

¹ Jeffcoate, T. N. A.: *Brit. Med. J.* 2:671 (Sept. 30) 1939.

For literature address the Professional Service Department,
E. R. Squibb & Sons, 745 Fifth Avenue, New York, N. Y.

Amniotin

A SQUIBB PREPARATION OF ESTROGENIC SUBSTANCES
OBTAINED FROM THE URINE OF PREGNANT MARES

BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

"THE DAILY LOG FOR PHYSICIANS." Colwell Publishing Company, Champaign, Ill. Price \$6.00.

This is the fifteenth edition of a bookkeeping system which provides a display of important income and expense items, all in loose-leaf form, well bound.

Figures that are essential for income tax returns, budgets, and legal aid are simply systematized. Subsidiary to the financial records are memorandum forms with records of inoculations, surgery, obstetrics, narcotics, etc.

It is a simple and complete record, edited annually, keeping it abreast of all possible improvements.—L. S. Willour.

"THE INFANT AND CHILD IN HEALTH AND DISEASE." John Zahorsky, M.D., and Elizabeth Noyes, R.N. Cloth. Pp. 496 with 140 illustrations and seven color plates. St. Louis: The C. V. Mosby Co. 1939.

This is the second edition of this book. It is a textbook for nurses and is adapted to the new curriculum adopted by the National League of Nursing Education. Part 1 is devoted to the normal infant and child; Part 2 to the Diseases of infants and children. Part 3 discusses pediatric procedures with several illustrations demonstrating them. The book especially stresses nursing care.—Clark H. Hall.

PRACTICAL MICROBIOLOGY AND PUBLIC HEALTH. William B. Sharp, S.M., M.D., Ph.D., Professor of Bacteriology and Preventive Medicine in the Medical Department of the University of Texas. Pp. 492 with 125 illustrations. The C. V. Mosby Co., St. Louis, Missouri. 1938.

Dr. Sharpe's book is an excellent one and fulfills very well the purpose for which it was written, namely, a combined laboratory guide and handbook in bacteriology, immunology, public health and parasitology. The exercises are well arranged and the directions are briefly, concisely and clearly given, accompanied by charts for use by the students. Laboratory results can be recorded in the book. However, it would seem advantageous to me that students should have a loose leaf laboratory notebook for keeping more detailed laboratory notes than it would be possible in the limited space provided in the book. The book is in no sense a textbook and it would be necessary to supplement the material by reference to other more complete texts.

The book could be used as a laboratory manual in medical schools where courses in bacteriology, immunology, public health and parasitology are given in the same department and as a combined course, and for this purpose it is very well organized. It could be adapted also for the general courses in the subjects in colleges and universities.—H. D. Moor.

March of Time Back on Air

March of Time is back on the air, returning to the air-waves over 111 stations of the NBC-Blue Network October 9, at 8:00 P.M., EST. The series, which has been off the air for two years is sponsored by Time, Inc., publishers of Time Magazine.

Dr. E. Goldfain Opens New Offices

The office of the Association wishes to congratulate Dr. E. Goldfain on the opening of his new clinic offices at 228 Northwest 13th Street, Oklahoma City.

In the new offices, Doctor Goldfain will carry on his regular practice, giving special attention to arthritis and rheumatic diseases.

It Can't Happen Here??

The following item is reprinted from the New England Journal of Medicine, October 2 issue:

Owing to the shortage of fuel oil, the Boston Medical Library will be closed on Saturdays, commencing October 4 and continuing until late spring. This will necessitate the closing of the headquarters of the Society and the office of the Journal during the corresponding period. In an emergency, the officers of the Society and the managing editor and associated editors of the Journal will be available through their offices or homes.

Dr. Charles M. Pearce Moves to Dallas

Dr. Charles M. Pearce, McAlester, moved from the state in September to Dallas, Tex., where he has opened headquarters as physician for the Farm Security Administration of five states.

Doctor Pearce is a former county physician for Caddo county.

Dr. Henry H. Turner Speaks in Chicago

Dr. Henry H. Turner, Oklahoma City, was a guest speaker at a meeting of the Chicago Medical society, November 6, in Chicago, when he discussed "Fatigued States Associated with Endocrine Disorders."

November 7 and 8, Doctor Turner attended the Central Society of Clinical Research in Chicago.

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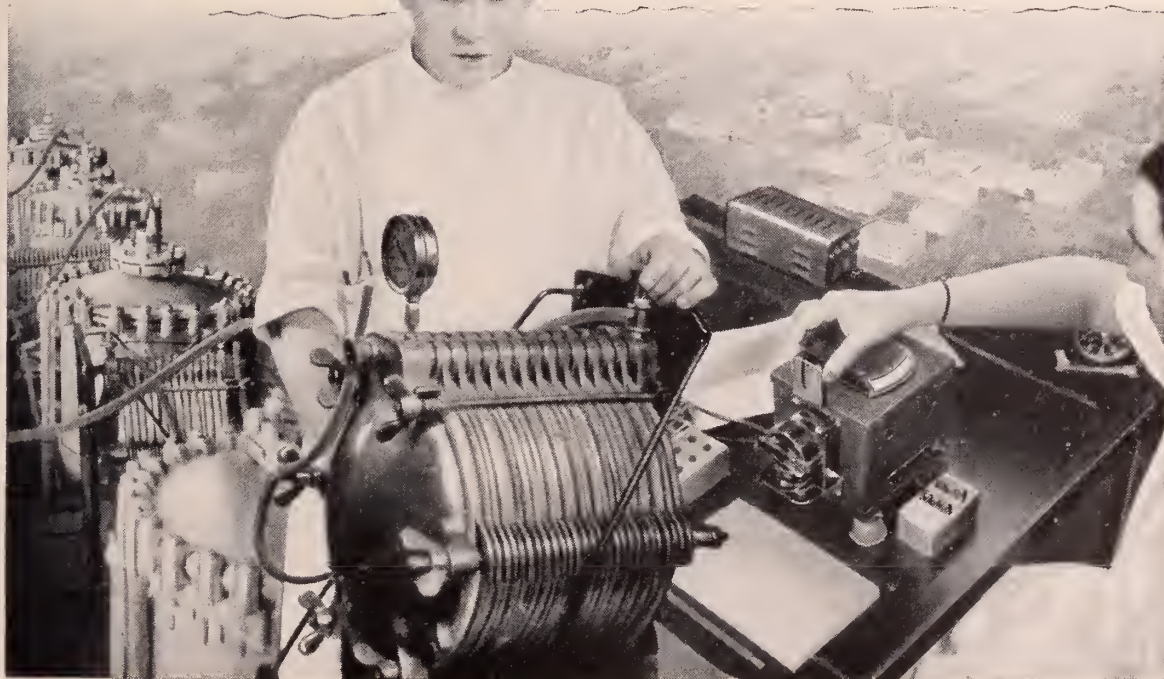
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REVIEWS and CORRESPONDENCE

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments From
LeRoy Long Clinic
714 Medical Arts Building, Oklahoma City

"SOME ETIOLOGIC FACTORS IN STERILITY." Virginia Clay Hamilton, M.D., Bath, Maine. *American Journal of Obstetrics and Gynecology*, September, 1941, Vol. 42, No. 3, Page 477.

This is a study of 483 consecutive cases admitted to the Sterility Clinic of Bellevue Hospital.

There is much detailed information contained in the report quite similar to other studies on sterility, including a rather large number of couples in whom the sterility was dependent upon the male rather than the female. The authors complain that their findings are not as accurate as they would have been if there had been a more careful study of all males in the couples considered.

"An average of 3.3 'sterility factors' for each couple was found. This figure would undoubtedly have been higher if more extensive study of the male partners of the patients had been made.

"The absolute and relative frequencies of the various factors found upon admittance are noted and discussed. The factors which seemed to be associated most positively with sterility in this series were adnexal pathology (both with and without obstruction of the Fallopian tubes), endocervicitis, seminal abnormalities, abnormalities of basal metabolic rate (deviations above and below the accepted norm), and duration of marriage."

They have records for 74 patients who conceived, following study and treatment, for a total of 83 pregnancies.

COMMENT: The principal reason an article of this character deserves abstracting and review lies largely in the more moderate concept of investigation for infertility as well as some of the more recent advances in investigative methods.

It is now well recognized that sterility must be considered a problem of a couple rather than an individual patient and that, even in the couple, there are usually multiple sterility factors rather than a single cause for infertility. This concept, together with such improvements of investigation as the Rubin test, has led to thorough meticulous examination of each member of a couple with the appropriate treatment of all physical abnormalities encountered in either member of the couple. There has been a consequent improvement in the results to be obtained from sterility investigation and treatment and a marked reduction in unnecessary and sometimes harmful surgical procedures upon the woman of an infertile couple.

Though it is true that there have been advances in the methods of investigation, the most important feature of the problem of infertility still rests in this more moderate concept which does not demand elaborate apparatus but a thorough conscientious medical investigation and understanding of the problem involved.—Wendell Long.

"THE SEX HORMONE EXCRETION OF ADULT FEMALE AND PREGNANT MONKEYS." R. I. Dorfman, Ph.D., and G. Van Wagenen, Ph.D., New Haven, Conn. *Surgery, Gynecology and Obstetrics*, October, 1941, Vol. 73, No. 4, Page 545.

"Studies have been made on the sex hormone excretion of (a) adult female monkeys, (b) pregnant monkeys, (c) pregnant monkeys from which the fetuses had been removed by abdominal hysterotomy, and (d) a pregnant monkey which was ovariectomized early in gestation when the fetus was removed.

"Increases in both estrogenic and androgenic substances in the urine of pregnant monkeys were observed. Following parturition, or expulsion of the placenta alone, the estrogens immediately decreased to the nonpregnant values while the high concentration of androgens persists for approximately one month post partum. Direct proof is presented that the estrogens may be produced in the ovary, placenta, and adrenal cortex. The results indicate that the greatest part of the androgens produced during pregnancy are derived from the adrenal cortex.

"The rhesus monkey is the first animal in which an increase in the urinary androgens has been demonstrated in pregnancy. The excretion of estrogenic and of androgenic substances is compared in immature, adult, and pregnant monkeys."

COMMENT: The authors feel that the androgens were probably produced by the adrenal cortex because one of their animals was subjected to oophorectomy as well as removal of the fetus on the seventy-third day and yet maintained a higher level of androgen than in the nonpregnant animal.

This is hardly sound evidence though it is, indeed, highly suggestive that the adrenal cortex was active in producing the androgens. This is particularly interesting information because we are all quite certain that there is an intimate relationship between the adrenal cortex and the female genitalia, though the exact mechanism is, as yet, far from fully explained. The instances of virilism and adenomata of the adrenal cortex offer good proof that androgens may be produced by the adrenal glands and this article is the first report of an animal with an increase in urinary androgens during the normal physiological process of pregnancy.

Of course, the practical application of information such as this will only become evident in future consideration and treatment of adrenal cortex endocrine dyscrasia as related to symptoms in the female pelvic organs.—Wendell Long.

"GASTRIC ULCER. THE SIGNIFICANCE OF THIS DIAGNOSIS AND ITS RELATIONSHIP TO CANCER." Arthur W. Allen, M.D., and Claude E. Welch, M.D., Boston, Mass. *Annals of Surgery*, October, 1941, Vol. 114, No. 4, Page 498.

Gastric and duodenal ulcer have been discussed so frequently under the general heading of "Peptic Ulcer" that a serious confusion has resulted regarding the proper management of these two distinct entities. Early symptoms in both diseases are much alike and the conservative measures, found adequate in uncomplicated duodenal ulcer, will also be temporarily effective for gastric ulcer on occasion. The greater frequency of acute duodenal lesions, compared to those in the stomach, has enhanced the standardization of the treatment of duodenal ulcer. This regimen applied to the more rare gastric ulcer has often proved disastrous. The time has come for more clarification of our ideas concerning the management of gastric ulcer and every effort should be made to stress the seriousness of this lesion.

There is difficulty in the differential diagnosis between ulcer and cancer of the stomach.

As a result of review of the records of all patients, treated in the Massachusetts General Hospital, during the ten year period ending January, 1940, who have had the diagnosis of gastric ulcer, the authors make the following conclusions and recommendations:

Immediate surgery is indicated for any of the following situations.

- (1) The ulcer is of short duration and the patient is over 50 years of age.
- (2) The ulcer is over 2.5 cm. in diameter.
- (3) There is no free hydrochloric acid in the stomach.
- (4) The ulcer is in the greater curvature or in the pyloric region.
- (5) The ulcer is chronic and on the lesser curvature.

They recommend hospital observation and treatment for one month, if:

- (1) The ulcer is acute and in a young patient.
- (2) The ulcer is under one cm. in diameter.
- (3) The ulcer is on the lesser curvature or the anterior or posterior wall.

If healing is complete in one month, repeated observations should be made one month after discharge from the hospital.

If healing is not complete in one month, by roentgenologic and gastroscopic examinations, then surgery is advisable.

Gastric ulcer is, fundamentally, a surgical lesion. This is the direct antithesis of our present concept regarding duodenal ulcer.

Gastric ulcer cannot be distinguished from cancer in a high percentage of cases.

The gastric cancers that stimulate gastric ulcer comprise an especially favorable group for cure. On this basis alone, surgery should be the treatment of choice.

The end-results of gastric resection for ulcer seem to substantiate this same form of treatment even if the ulcer is proved to be benign.

COMMENT: If the medical man is convinced that the lesion is or may be cancer, he is usually willing for his patient to submit to surgery. Most medical men at the present time, however, hesitate to submit the patient who has probable benign ulceration of the stomach to the surgeon for a radical operation. It is true that the surgeon himself has been slow in developing a sound surgical procedure for such lesions. He has also been slow in evaluating methods that seemed in the beginning to offer cure in the majority of cases operated upon. The morbidity and mortality in this field of surgery has brought about a natural reaction on the part of physicians to evade the surgeon if possible.

Most surgeons will now agree with Dr. Allen that there is evidence to warrant making a fresh endeavor to convince our medical colleagues that gastric ulcer should be fundamentally a surgical disease. Surgeons are willing to allow the medical man to continue treating early small ulcerations in the safer zones within the stomach, particularly in the younger patients. He should, however, treat this patient on a different basis than that used in duodenal ulcer. The patient with gastric ulcer should be followed until the lesion is completely healed and then checked by roentgenograms and gastroscopy at frequent intervals. Suspicion should be entertained of any lesion that tends to recur or one that heals imperfectly within a short period of time. If one considers the cancer danger alone, this attitude will allow the patient to have an early and favorable operation. Under this plan, a certain number of patients will have gastric resection for benign ulcer. We believe that this is entirely justifiable.—LeRoy D. Long.

"RESULTS OF PARTIAL GASTRECTOMY FOR BLEEDING DUODENAL, GASTRIC, AND GASTROJEJUNAL ULCER." Waltman Walters, M.D., and W. H. Cleveland, M.D., Rochester, Minn. *Annals of Surgery*, October, 1941, Vol. 114, No. 4, Page 481.

It appears that between 25 and 35 percent of patients who have peptic ulcer have episodes of bleeding. Two

principal types of gross hemorrhage occur from peptic ulcer: the chronic, which is associated with hematemesis or melena but does not give rise to severe symptoms of loss of blood even though the bleeding may be considerable, and secondly, the acute massive, which is associated with marked sweating, pallor, weakness, prostration, fast thready pulse, and circulatory collapse.

Off hand, mortality from bleeding from peptic ulcer might seem to be low, probably from one to three percent in cases of gastric and duodenal ulcer but increased to approximately three times that in cases of gastrojejunal ulcer.

There is a distinct difference in the mortality rate of massive hemorrhage and chronic hemorrhage, many observers stating that approximately 50 percent of patients, age 45 or more, if treated expectantly, will die from hemorrhage.

In most cases patients with massive acute hemorrhage who are under 45 years of age will have cessation of bleeding from rest, blood transfusion and proper diet. Not more than approximately 70 percent of such cases in patients who are more than 45 years of age will recover from that conservative type of treatment. This is probably due to the difference in the arterial wall in the different age groups. An insufficient number of patients who have acute massive hemorrhage from peptic ulcer, have been treated surgically to prove any reduction of mortality in the older age group by surgical treatment. Furthermore, there is a great difference between emergency operation performed at the time of, or shortly after, the hemorrhage occurs and several days later, when a nephrotic condition with retention of nitrogen and frequently edema greatly increases the operative risk. Finsterer has reported far more than any other surgeon cases operated on for massive gastric acute hemorrhage and his operative mortality has been lower than any other series. As a result of his experience, he stresses the importance of early operation for the acute massive hemorrhage cases. His experience emphasizes the seriousness of a few days' delay. This would seem to be particularly applicable to the older patients. A logical conclusion from the experience of Finsterer and others seems to be that patients more than age 45 who have massive hemorrhage should be operated upon immediately, that is between 24 and 36 hours after onset of the hemorrhage, or should not be operated upon until they have recovered entirely from the effects of the hemorrhage.

In most clinics medical treatment has been employed for such lesions and surgical treatment has been postponed until the patient has recovered fully. When surgical attack has been utilized, it usually has been carried out only after medical measures have failed to control the bleeding. Naturally, surgery in the terminal stages under these conditions has proved to be relatively hopeless.

The treatment of chronic hemorrhage from peptic ulcer is an entirely different problem. Here interest lies in prophylaxis against further hemorrhage and relief from intractable symptoms (pain) of ulcer. The surgical procedures to be employed and their indications are of great importance. Formerly it was thought that, in cases of bleeding duodenal ulcer, gastro-enterostomy afforded protection against further serious bleeding. However, it has been found that approximately 24 percent of bleeding duodenal ulcer cases having such an operation have bled subsequently.

The present paper deals with an evaluation of the effectiveness of partial gastrectomy for bleeding peptic ulcers at the Mayo Clinic operated upon during a five year period (1932-1936, inclusive).

The results of partial gastrectomy for all bleeding duodenal ulcers during that period showed 94.4 percent satisfactory results. The results were classified as satisfactory only if there had been no further hemorrhage and no symptoms of ulcer. Unsatisfactory results were obtained in only two cases (5.5 percent) in which re-

section was performed for bleeding duodenal ulcer. In each case primary posterior Polya-type of partial gastrectomy had been performed without removal of the pyloric antrum of the stomach. Multiple hemorrhages with ulcer type of pain occurred subsequently in both cases.

Gastric Ulcer: During this period, 25 bleeding benign gastric ulcers received partial gastrectomy. Two of these 25 patients gave a history of massive hemorrhage. Twenty of the 25 patients were traced in the follow up. Ninety-five percent of these 20 patients traced attained satisfactory results. In 17 of the 20 traced cases, partial gastrectomy of the posterior Polya-type had been performed; in two, the Billroth I procedure; and in one, an anterior Billroth II type of resection without entero-anastomosis and with temporary jejunostomy. Only one of these 25 traced patients (5 percent) had an unsatisfactory result; a posterior Polya-type of partial gastrectomy was performed for syphilitic gastric ulcer in this case.

Associated Gastric and Duodenal Ulcers: The results of partial gastrectomy for bleeding in concomitant duodenal and gastric ulcers was found to be comparable to those attained for bleeding duodenal or gastric ulcer. During this period 12 patients with associated gastric and duodenal bleeding ulcers were subjected to partial gastrectomy. Ten of these 12 were traced and satisfactory results were obtained in nine of the ten traced cases.

Jejunal Ulcer: During this period, 56 bleeding jejunal ulcers were subjected to partial gastrectomy. Forty-nine of these patients had multiple hemorrhages prior to operation, and 15 had massive hemorrhage. Eight of these 15 with massive hemorrhage were more than age 45. Forty-six of the 56 patients were traced. Thirty-five had satisfactory results. Eleven obtained unsatisfactory results.

Analysis of unsatisfactory results of 112 patients treated for bleeding peptic ulcer by partial gastrectomy, who were traced, showed that 94 received satisfactory results and 15 received unsatisfactory results.

Four of the 15 unsatisfactory results occurred in cases in which the pyloric antrum and pyloric sphincter were not removed in the course of partial gastrectomy. In a total of seven of the 112 cases, the pyloric antrum was not removed, and an unsatisfactory result was obtained in four of the seven (57 percent). Both failures in cases in which the primary resection was for duodenal ulcer, and two failures in the cases of jejunal ulcer presumably occurred on this account.

In the early experience with gastric resection, it was not appreciated that the pyloric antrum should be removed in all cases in which gastrectomy was performed. From both clinical and experimental evidence it is now known that it is important to remove the pylorus, if a maximal reduction of gastric acidity is to be obtained.

If one is to obtain a relative achlorhydria, entero-anastomosis should not be performed in association with partial gastrectomy. This seems to be true when one is dealing with duodenal, gastric or jejunal ulcer.

In comparing the effect of various types of gastric resection on gastric acidity, it has been found that the Billroth I procedure is least satisfactory in this respect. Only 25 percent of patients obtained relative achlorhydria to the standard test meal after the Billroth I procedure for duodenal ulcer in contrast to 72 percent after a posterior Polya operation.

Operative Mortality: There were 14 postoperative deaths in the group of 135 cases of bleeding peptic ulcers, a mortality rate of 10.3 percent. Eight of these 14 were from peritonitis and five from bronchopneumonia.

Since 1936 the operative mortality has been improved and this improvement in operative risk has been attained by improvement in preoperative and postoperative care, the use of chemotherapy, a better understanding of vitamin deficiencies, more rigid indications for partial

gastrectomy, and improvement in the postoperative care of pulmonary complications.

The authors feel that their results support the contention that partial gastrectomy offers the best chance of cure or amelioration of symptoms of bleeding peptic ulcer and the best prophylaxis against further hemorrhage.

With elimination of procedures which have proved of least merit, such as failure to remove the pyloric antrum with the resected portion of the stomach, entero-anastomosis, and less frequent use of Billroth I-type of procedure, results should be improved.—LeRoy D. Long.

EYE, EAR, NOSE AND THROAT

Edited by Marvin D. Henley, M. D.
911 Medical Arts Building, Tulsa

"WHAT CAN BE EXPECTED OF ORTHOPTIC TRAINING?" American Journal of Ophthalmology, September, 1941. Edna Knauber. New York.

According to the author, orthoptic training improves amblyopia ex anopsia, heterotopia, and heterophoria. The object of orthoptic training is normal binocular vision with stereopsis. Tasks and exercises within the ability of each individual patient are assigned. The patient's interest is maintained by showing him that he is progressing. The patient is shown from time to time that the child is really improving. When this procedure is followed out a good result is sure to be obtained. This requires definite supervised office exercise. It has been found from many sad experiences that home exercises are unsatisfactory. Orthoptic training is a necessary aid to muscle surgery of the eye. Orthoptics require a well trained technician with frequent checks by the attending ophthalmologist.

"RUPTURE OF THE DRUMHEAD AS A WARTIME INJURY." Alfred B. Alexander. British Medical Journal, Vol. 2, Page 195-6, August, 1941.

Rupture of the drumhead is the most common of all types of injury due to aerial bombardment. Already in 1940, J. Collier, who has studied the war injuries in Barcelona, suggested the high incidence of drumhead injuries: from 30 to 60 percent of the Barcelona air-raid casualties had sustained damage to the drumhead.

Rupture of the drumhead is considered a slight injury, but it only remains such when it is followed by an uncomplicated course, free from infection of the tympanic cavity. Such an uncomplicated course is less frequent when the injury is due to the blast of high-explosive bombs. Once infection establishes itself in the tympanic cavity the whole chain of ear afflictions and otogenic complications may be the outcome ranging from slight persistent deafness to death from meningitis.

It is customary to differentiate between direct and indirect traumatic ruptures. The direct ruptures are caused by a great variety of foreign bodies and by powerful syringing of the meatus for the removal of wax. The indirect ruptures are due to sudden changes in the density of the air in the meatus at the moment of the influence of the force. Blows on the ear or an inadequate head-first dive into the water may cause such indirect injury. The ruptures caused by explosion are not indirect injuries, though most textbooks describe them as such. There is a direct force, the wave of pressure.

From a practical point of view, one should differentiate ruptures with sterile tympanic cavity (e.g. slap), and ruptures in which the tympanic cavity has been interfered with. Blast injuries may be regarded as belonging to the second group.

Ruptures of the drumhead due to blasts may be masked by the presence of more severe injuries, and, lacking routine otoscopy, such cases are in danger of being overlooked until suppuration occurs. Yet, in most

cases, at the moment of the rupture a short stabbing pain is felt, frequently accompanied by tinnitus or the hearing of a high-pitched sound. Initial vertigo is very common. Some pain persists for a few hours or even days. Hearing is moderately reduced. There may be a feeling of fullness in the ear, occasional giddiness and sickness, headaches for considerable periods. The vertigo is caused by the cold air entering the tympanic cavity, and it is not due to labyrinthine concussion. Its mechanism is the same as in vertigo caused by caloric vestibular tests.

Objective examination will find a roundish, irregular, or slit-shaped perforation in a radial position in the drumhead. The margin is often frayed and irregular, with everted edges; a small zone around the margin of the perforation is discolored and stained by the extravasated blood. The remaining part of the drumhead may show small interstitial hemorrhages. A certain amount of blood, or coagula, in the meatus is a very common picture. In air-raid casualties the whole of the meatus may be blackened by soot.

The perforation is often situated in the anterior quadrants of the drumhead. Anatomical details of the middle ear can on occasion be seen through the perforation. It may be necessary to remove carefully the blood crusts, coagula, or wax by means of a sterile probe (but never by syringing!) in order to render inspection of the drumhead possible. This should not be done, however, if there is suspicion of a fracture of the base of the skull. Not many tests are necessary for the diagnosis of tympanic perforation.

Rupture of the tympanic membrane may heal spontaneously without any complication. After healing it is quite impossible to recognize any trace of a previous injury. Hearing may remain normal. The normal duration of such healing is 25 days. There may follow however a low-grade infection with chronic adhesive changes in the middle ear and a permanently reduced hearing (middle-ear deafness); or, there may be a highly virulent infection with frank suppurative otitis media appearing usually not later than 24 hours after the injury. Over 50 percent of air-raid ruptures are thus complicated.

In uncomplicated cases the treatment should be restricted to the protection of the tympanic cavity from external damaging influences. No unnecessary manipulations in the meatus should be undertaken. Syringing, or any kind of ear-drop is strictly contraindicated. It is sufficient to plug the meatus lightly with sterile ribbon gauze or cotton-wool, and to inspect once or twice a week. The patient should be very careful in washing his face or taking a bath. Exercise in its violent forms should be avoided.

If foreign matter has entered the meatus, it is advisable to use sulfanilamide in the form of preventive insufflation into the tympanic cavity. This may prevent infection, but it does no good in established cases of otitis media. Such cases need sulfanilamide by oral administration.

Insufflation is very efficient if it is done soon after the injury. It is a very simple procedure, and the author recommends it as a routine treatment for rupture of the drumhead during the present emergency. The meatus should be plugged lightly after the insufflation.

"THE SURGERY OF PETROSITIS." George Swinburne, University of Melbourne. The Australian and New Zealand Journal of Surgery, Vol. 11, Page 46-60, July, 1941.

A number of otologists in the latter part of the last and the early part of this century drained abscesses of the petrous temporal bone by following up fistulae accidentally found at operation on the mastoid or middle ear. Others reached abscesses in the petrous apex by removing portion of the squamous temporal, the tegmen tympani and tegman antri, and portion of the bony external auditory canal, then retracting the temporo-

sphenoidal lobe after separating the dura from the upper surface of the petrous bone. This operation was later used by *Eagleton*, and is now commonly known under his name. In 1930, *Kopetsky* and *Almour* described their technique for burring a hole into the apex between the cochlea, the Eustachian tube and the internal carotid artery. *Frenckner*, in 1932, suggested perforation by curettage through the arch of the superior vertical semicircular canal. In 1933, *Ramadier* recorded the use of drainage through the posterior wall of the carotid canal. In 1936 *Eagleton* suggested, and *Myerson* with others actually described an operation for a lateral cervical and retropharyngeal route of approach. Finally, in 1937, *Lempert* described his complete apicectomy by exposing the internal carotid in the whole of its intrapetrous course.

Lesions of the very complicated petrous portion of the temporal bone may take the form of osteomyelitis, coalescent osteitis and a condition developing into empyema which may discharge its contents through a fistula. Resolution occurs in the usual way of fibrosis. *Ramadier* distinguishes a hematogenic bilateral petrositis, and an otogenic osteomyelitis, but the final result of these two is much the same: a coalescent abscess.

In the typical picture the following symptoms and signs are found: (1) neuralgic pain, (2) aural discharge, (3) low grade of sepsis, (4) often a sixth nerve paralysis, (5) x-ray findings showing destructive changes in the petrous pyramid, especially the apex. The clinical picture is often atypical and the course of the infection is often silent. The complications may be very serious, and 20-30 percent of the sufferers from petrositis have died from complications in the past.

Treatment of petrositis may be surgical if the infection becomes a suppurative one. From the therapeutical point of view petrositis may be arbitrarily divided into five groups: (1) congestive petrositis, (2) suppurative labyrinthitis, (3) suppurative perilabyrinthitis with fistulae through the surfaces of the petrous temporal bone, either into the middle ear or mastoid antrum, or with the production of extradural abscesses, (4) suppurative apicitis, with or without fistulae, (5) a combination of suppurative apicitis with suppurative labyrinthitis.

Petrositis is a complication of otitis media in the same way as mastoiditis and may occur without mastoiditis, though not usually. The objects of the surgical therapy are: (a) eradication of the focus, and (b) prevention of the extension of the disease.

Congestive petrositis is not demonstrable radiologically. There may be pus formed, and if the pus drains into the tympanum, resolution may occur without further surgical operation than either a myringotomy or a simple mastoidectomy.

Suppurative perilabyrinthitis requires removal of the mastoid process, and exposure of the basal labyrinthine portion of the petrous pyramid in order to search for fistulous tracts or extradural collections of pus. All surgeons agree on careful curettage and widening of the fistula when found and, if possible, removal of the perilyabyrinthine cells affected after adequate access has been obtained. *Lampert* suggests that all surfaces of the basal labyrinthine portion should be inspected, but this may be unnecessary under certain circumstances. The lesions confined to the posterior perilyabyrinth are the easiest to manage and the milder cases respond to a thorough simple mastoidectomy. Lesions affecting the anterior perilyabyrinth are more serious and more dangerous because they are not demonstrable through the exposure afforded by the simple mastoidectomy.

The surgical approaches to the petrous apex in apicitis may be extra- or intrapetrosal. The extrapetrosal procedures include operations in which the dura of the middle cranial fossa is separated from the superior surface of the petrous bone (a) through the simple mastoidectomy exposure, (b) by *Eagleton's* "unlocking" operation, or (c) by the *Gasserian* ganglion approach. None of these operations is absolutely reliable as to

establishing proper drainage, and all of them are more or less difficult.

The intrapetrosal operations include two main groups: the first group contains the procedures of Richards and Freckner, and the second group includes those of Kopetsky and Almour, Ramadier and Lempert.

Richards' method is the removal of the whole of the petrous pyramid beginning with a labyrinthectomy; it is indicated only in very advanced cases with much necrosis. Freckner's method is to curette through the arch of the superior vertical semicircular canal, passing to the apex, by going between the internal auditory canal and endolymphatic duct and sac above, and the jugular bulb and the cochlear aqueduct below. It is a sometimes very risky operation.

The other group of operations gives exposure of all possible avenues through which an infection can enter. All three procedures are performed with the presupposition that the bony shell of the petrous pyramid is intact. Almour performs a simple mastoidectomy first, then searches for fistulae in the posterior perilymphatic region. If none is found, a radical mastoidectomy is completed, further search for fistulae is made around the superior semicircular canal, and finally, a hole is made into the petrous tip with a dental burr through a pyramidal space between the cochlea, the Eustachian tube and the internal carotid artery. If there was sign of an extradural abscess as well as of petrous tip suppuration, or if x-ray showed a break in the contour of the bone of the apex, the subdural route is used.

Ramadier's operation consists essentially of opening into the carotid canal; the internal carotid artery is then drawn to one side and an opening is made into the petrous apex through the now exposed medial wall of the carotid canal. Both the Almour and the Ramadier operations try to keep the infection and its point of drainage within the temporal bone and away from the meninges, thus reducing to a minimum the possibility of a subsequent meningitis. Yet, Ramadier's operation may be sometimes very risky; infection may occur, or hemorrhage may follow, and even thrombosis of the cavernous sinuses has been described as a complication.

Lempert objected to all these intrapetrosal methods for various reasons, and described a new method of complete apicectomy. It includes four stages: mastoidectomy, exposure of the basal labyrinthine portion of the petrous pyramid, approach to the apical carotid portion of the petrous pyramid, and complete exenteration of the bony cellular structure of the apical carotid portion of the petrous pyramid, accomplished through the exploration of the entire apical course of the internal carotid artery. In acute bacterial meningitis this operation provides a direct approach to the dura of the posterior fossa for drainage of the cisterna pontis and cisterna interpeduncularis. Yet, since the advent of therapy with sulfanilamide preparations this procedure is very rarely found necessary.

If the surgeon is watching a patient who as yet has given no evidence clinically of a fistula, he may either explore all the surfaces or he may wait a little, watch his patient carefully, take regular cerebrospinal fluid cell counts, and be prepared to intervene. Each case has to be treated on its own merits.

"SOME REMARKS ON RETINAL DETACHMENT." Malling. *Acta Ophthalmologica*, Copenhagen. Vol. 19. Page 57-60, Fasciculus 1. 1941.

Since Gonin proposed his treatment, everybody has been studying more carefully the manifestations of retinal detachment. The manifestations are so different that one has to assume that the causes of this disease are many and varied. One form of detachment, the exudative form, is the least studied. The author recently had opportunity to observe three cases of exudative detachment. All three were women, all healthy in every respect, and there were no demonstrable pathologic conditions which could have any connection with their eye

diseases. Transillumination and later findings showed no indications of tumor formation. Tensions were normal and the fields of vision showed the usual limitation corresponding to the detachments. There was no history of a direct or indirect injury.

The three patients show three stages of the disease. They show how a limited choroiditis can, by exudation, loosen the intact retina; later, the retina can perforate in the degenerated area. The fully developed picture is: choroiditis, degenerated retina with perforation and detachment. In the first case recovery was spontaneous, and there was no visible perforation in the retina in spite of the fact that the detachment was quite extensive. In the other two cases there was no tendency to spontaneous recovery because there was a perforation in the retina.

In all three cases the affection was localized to the posterior temporal segment corresponding to the region of the attachment of the oblique muscles. For indirect traumatic detachment the inferior oblique muscle in particular has been ascribed a role of importance as the patient at the moment of injury looks upward suddenly. It is possible that also in the three cases of choroiditis with detachment the oblique muscles had some influence.

Sigita recently tried to explain the pathogenesis of retinal detachment by physico-chemical factors. He demonstrated that when the vitreous is liquefied, albumen is decomposed, forming large and small ions, mostly sodium and potassium ions. These have opposite electric charges, which hinders outward diffusion. Since the internal limiting membrane of the retina acts as a semipermeable membrane, the ionized solution will attract ions from the surroundings, thus increasing the osmotic pressure in the vitreous. If the pressure rises above a point of equilibrium, water will be drawn from the retina, which will shrink and eventually rupture.

Sigita also showed that the ions are more concentrated in the upper layers than in the lower. The strongest influence upon the retina should therefore be in the upper region. Since the eyes at the same time are always moved inward the ions are centrifuged outward; hence, the perforation of the retina is often found in the upper temporal region.

"PARESIS OF THE LARYNX." V. R. Lapp, MacGregor Clinic, Hamilton, Ont. *Canadian Medical Association Journal*. Vol. 45, Page 239-41, September, 1941.

The muscles of the larynx are divided into three groups: (1) those that close (adductors: arytenoid single, lateral crico-arytenoid paired, thyro-arytenoid paired), (2) those that open (abductors: crico-arytenoid posterior paired), and (3) those that tense the vocal cords (tensors: crico-thyroid paired, thyro-arytenoid paired). These muscles are innervated by the vagus (superior laryngeal nerves to the crico-thyroid muscles, the recurrent laryngeal nerves to the remaining muscles).

The lesions producing laryngeal paralysis are either central or peripheral. Only bulbar central lesions can produce central laryngeal paralysis; such lesions may be due to syphilis, multiple sclerosis, syringomyelia, or progressive bulbar paralysis.

In adduction paralysis, the affection may be uni- or bilateral. In unilateral cases, the unaffected cord moves to the midline, but the affected cord remains in the inspiratory position. In bilateral cases both cords remain in the inspiratory position. The adduction paralysis interferes with all the functions of the cords. Interference with a phonatory function is inconvenient, but interference with the protective and expectoratory function renders the individual more susceptible to pulmonary disease. There is no local treatment for this condition.

Unilateral abductor paralysis is not serious in itself. The patient will have a reasonably good voice with the cords either in the midline or cadaveric position. In bilateral abductor paralysis the voice is usually fair,

but there is serious interference with the respiratory function, unless the cords remain in the cadaveric position, which is unusual. Some cases require an emergency tracheotomy. Nearly all require some type of operation to increase the air space within the larynx.

King has recently devised a new and very clever operation for the relief of this distressing condition. He utilized the omohyoid muscle. This is an extrinsic muscle of the larynx, and is already "educated" in respiratory and phonatory movements. He attaches this muscle to the posterior portion of the arytenoid cartilage. Sometimes, especially if the trouble is of long standing, some further reconstruction is needed in the larynx such as immobilizing the crico-arytenoid joint and freeing the fibrosed muscles. This gives controlled abduction of the cord, and there is also adduction. The operation is difficult technically, but it is worthwhile mastering the technique.

Tensor paralysis is rare. When the crico-thyroid muscle is affected the cord comes to midline, but is lax and somewhat wavy in appearance. Paralysis of the thyro-arytenoid muscle causes a husky voice, and it may cause a suspicion of laryngeal cancer.

"USE OF PROSTIGMINE FOR IMPAIRED HEARING."

Morris Rosenthal, M.D. New York. Archives of Otolaryngology, September, 1941.

For the past two years this has been an interesting study as evidenced by reports from different investigators. In 1939 Davis and Rommel experimented with this drug in acute and chronic deafness as well as tinnitus aurium. Their report of its use was favorable.

In this series of cases only 30 are reported, although the investigation covered probably 100 cases; some of those did not report regularly, some came only for short intervals, some were not considered accurate enough in their audiometric checks to be considered reliable; all these were ruled out of the investigation, leaving only 30 who fulfilled all the requirements.

To begin with, each patient was given an audiometric reading and an examination of the nose, throat and ears. A sound-proof room was not used. A large nasal tampon was saturated with a ten percent solution of mild protein silver and inserted for a period of 30 minutes. It was then removed and followed by irrigation and suction. One cc. of a 1:2,000 solution of prostigmine methylsulfate was administered. In children a 1:4,000 strength was used. The treatments were given three times weekly. No other therapeutic measures were used.

The 30 audiometric charts accompany the article. They present an interesting study.

The author's comments and summary is as follows:

Thirty cases of impaired hearing are reported. In 24 the impairment was chronic and in one acute. In five cases the involvement was considered recent, because the impairment of hearing had been present less than six months.

Nineteen patients complained of tinnitus aurium.

Nineteen patients, six with acute and 13 with chronic impairment, showed objective improvement of hearing; 16 showed subjective improvement, and nine showed no improvement. Two patients reported that the condition had become worse.

Sixteen said that tinnitus had disappeared or diminished, while three reported no abatement of tinnitus.

Eleven showed objective improvement of hearing in all frequencies, while three showed loss in all frequencies and 16 showed loss in some frequencies and gain in others.

1. Prostigmine seems to have a definite value in impaired hearing of short duration and in some forms of tinnitus aurium.

2. Patients with chronic deafness show a smaller degree of improvement.

3. The patients whose cases are reported here do not show the high degree of improvement noted in the series presented by Davis and Rommel.



RIGHT: Hess Infant incubator. ABOVE: Hess incubator with Hess infant oxygen therapy unit in position for oxygen administration.



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INTERNAL MEDICINE

Edited by Hugh Jeter, M. D., F. A. C. P., A. S. C. P.
1200 North Walker, Oklahoma City

"PROGRESS IN INTERNAL MEDICINE: BLOOD," Review of Recent Literature. S. Milton Goldhamer, M.D., Cyrus C. Sturgis, M.D. and Frank H. Bethell, M.D., Ann Arbor, Michigan. Archives of Internal Medicine, Vol. 67, No. 6, Page 1177, June, 1941.

This is another review of recent literature which amounts to an abstract of 353 separate articles published in 1940 on subjects pertaining to blood and blood dyscrasias. Special consideration has been given to articles which contribute new information or supplement personal concepts.

Being impossible to abstract an abstract in any way satisfactory, it seems expedient in this instance simply to quote pertinent statements:

Several papers have appeared which confirm the belief, expressed some years ago, that pernicious anemia is a hereditary disease.

Askey has made a study of cases of "potential" pernicious anemia and suggests a plan of study whereby the disease may be recognized in the latent stage.

From the results of these experiments (Geiger, Goodman and Claiborn), it is clear that after total gastrectomy in the hog the liver becomes progressively depleted of autanemia potency.

Reports by these and other authors suggest strongly that the liver serves merely to store, or to elaborate and store, a product furnished by the stomach.

It appears that the duodenum is a true and significant source of the intrinsic factor, but that it is relatively less important than the stomach in this respect.

The observations of gastroscopists (Miller) indicate that the gastritis in most cases of pernicious anemia is of the atrophic type, but sometimes it is said to be hypertrophic.

Sandorf and Davidoff propose that the terms pernicious and allied anemias be discarded and the designation gastric anemia be substituted.

After reviewing the various laboratory tests for estimating the potency of various anti-pernicious anemia preparations, Schlicke concludes that they do not yield uniform or satisfactory results.

Alt and Young are in agreement with the generally expressed belief that parenteral liver therapy is the treatment of choice for pernicious anemia, especially when degenerative changes in the spinal cord are present. They conclude that pernicious anemia can be maintained in remission by injections of liver extract at intervals of two to three weeks. Highly concentrated preparations are as effective as cruder ones in maintaining complete hematologic and neurologic remissions.

Since liver therapy has been employed, it has been known that eosinophilia develops after the administration of raw liver but not after use of cooked liver.

Thompson and Rousselot deny the validity of the classic concept of the course of Banti's disease—a primary splenic enlargement progressing through stages of anemia, leukopenia and susceptibility to hemorrhage from varices and terminating in hepatic cirrhosis.

Dameshek and Hanstell suggest that the best form of treatment for polycythemia is phlebotomy and an iron-poor diet.

Haden states that the best method of treatment is phlebotomy.

A new method of preparing thromboplastin reagent from rabbit brain for the determination of prothrombin is described by Quick.

Because of the increasing use of "banked" blood for transfusions, interest has been shown in the effects of storage on the prothrombin content of such blood. Quick observed a significant decrease in prothrombin occurring within two days of removal of blood. Reinhold, Valentine and Ferguson report that 73 percent or more of the original prothrombin content of stored blood is present up to three days; after seven days of storage the majority of samples of blood possess less than half of their original prothrombin.

Wiseman, Doan and Wilson, in a general article on this disorder, accompanied by case reports, favor excessive thrombocytolysis by an overactive spleen as the most probable cause of thrombopenia.

An excellent and comprehensive summary of the previously reported cases in which agranulocytosis developed after gold therapy is given by Mirick.

During the past year probably the most important contribution to the literature dealing with infectious mononucleosis is the monograph by Bernstein. His article of 64 pages, with 207 references, will be of inestimable assistance to all physicians who are interested in the condition.

The characteristic cell is described (Kracke) as a large, atypical, irregularly lobulated lymphocyte having sky blue cytoplasm with a clear peri-nuclear zone. One of the outstanding features of this cell is the presence of small, variable-sized vacuoles which "almost stamps it without question as being a cell of infectious mononucleosis." The percentage of the unusual cells may be as high as 90, and in nearly all cases it exceeds 50. Kracke agrees that they are lymphoid in type and that their origin is probably from the involved lymphoid tissue and the spleen. It is emphasized that the red cell count and the hemoglobin content are usually normal, a valuable differential point between this disease and leukemia.

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Atoka-Coal.....	J. B. Clark, Coalgate	J. S. Fulton, Atoka	Second Tues, eve.
Beckham.....	H. K. Speed, Sayre		Second Tues, eve.
Blaine.....	L. R. Kirby, Okeene	W. F. Griffin, Watonga	Subject to call
Bryan.....	J. T. Colwick, Durant	W. K. Haynie, Durant	
Caddo.....	E. W. Hawkins, Carnegie	G. E. Haslam, Anadarko	
Canadian.....	P. F. Herod, El Reno	A. L. Johnson, El Reno	
Carter.....	R. C. Sullivan, Ardmore	H. A. Higgins, Ardmore	
Cherokee.....	P. H. Medearis, Tahlequah	Isadore Dyer, Tahlequah	
Choctaw.....	C. H. Hale, Boswell		
Cleveland.....	D. G. Willard, Norman	Moorman Prosser, Norman	Thursday nights
Comanche.....	G. G. Downing, Lawton	Donald Angus, Lawton	Third Friday
Cotton.....	Mollie Scism, Walters		
Craig.....	Powell L. Hays, Vinita	Paul G. Sanger, Vinita	Third Tuesday
Creek.....	P. K. Lewis, Sapulpa	Wm. P. Longmire, Jr., Sapulpa	4th Thursday
Custer.....	C. Doler, Clinton	W. C. Tisdal, Clinton	Wed. before 3rd Thur.
Garfield.....	V. R. Hamble, Enid	John R. Walker, Enid	3rd Thursday
Garvin.....	Robert M. Alexander, Paoli	John R. Callaway, Pauls Valley	
Grady.....	Turner Bynum, Chickasha	Roy E. Emanuel, Chickasha	
Grant.....	I. V. Hardy, Medford	E. E. Lawson, Medford	
Greer.....	J. B. Lansden, Granite	J. B. Hollis, Mangum	1st Wednesday
Harmon.....	Samuel W. Hopkins, Hollis	Wm. M. Yeargan, Hollis	
Haskell.....	Wm. S. Carson, Keota	N. K. Williams, McCurtain	First Friday
Hughes.....	William L. Taylor, Holdenville	Imogene Mayfield, Holdenville	Last Monday
Jackson.....	Raymond H. Fox, Altus	Willard D. Holt, Altus	
Jefferson.....	D. B. Collins, Waurika	J. I. Hollingsworth, Waurika	3rd Thursday
Kay.....	J. G. Ghormley, Blackwell	L. I. Wright, Blackwell	
Kingfisher.....	F. C. Lattimore, Kingfisher	H. Violet Sturgeon, Hennessey	
Kiowa.....	J. M. Bonham, Hobart	J. L. Adams, Hobart	
Le Flore.....	G. R. Booth, Le Flore	Rush L. Wright, Poteau	
Lincoln.....	J. W. Adams, Chandler	C. W. Robertson, Chandler	First Wednesday
Logan.....	Wm. C. Miller, Guthrie	J. L. LeHew, Jr., Guthrie	Last Tuesday evening
Marshall.....	John L. Holland, Madill	J. F. York, Madill	
Mayes.....	S. C. Rutherford, Locust Grove	E. H. Werling, Pryor	
McClain.....	B. W. Slover, Blanchard	R. L. Royster, Purcell	
McCurtain.....	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow	4th Tues. eve.
McIntosh.....	D. E. Little, Eufaula	W. A. Tolleson, Eufaula	2nd Tuesday
Murray.....	P. V. Annadown, Sulphur	F. E. Sadler, Sulphur	
Muskogee.....	A. N. Earnest, Muskogee	S. D. Neely, Muskogee	1st & 3rd Monday
Noble.....	J. W. Francis, Perry	C. H. Cooke, Perry	
Okfuskee.....	J. M. Pemberton, Okemah	L. J. Spickard, Okemah	2nd Monday
Oklahoma.....	George H. Garrison, Okla. City	W. W. Rucks, Jr., Okla. City	4th Tuesday
Okmulgee.....	I. W. Bollinger, Henryetta	M. D. Carnell, Okmulgee	2nd Monday
Osage.....	T. A. Ragan, Fairfax	George Hemphill, Pawhuska	2nd Monday
Ottawa.....	J. W. Craig, Miami	L. P. Hetherington, Miami	3rd Thursday
Pawnee.....	M. L. Saddoris, Cleveland	Robert L. Browning, Pawnee	
Payne.....	A. B. Smith, Stillwater	Haskell Smith, Stillwater	3rd Thursday
Pittsburg.....	W. H. Kaeiser, McAlester	Edw. D. Greenberger, McAlester	3rd Friday
Pontotoc.....	E. M. Gullatt, Ada	R. E. Cowling, Ada	1st Wednesday
Pottawatomie.....	R. M. Anderson, Shawnee	Clinton Gallaher, Shawnee	1st & 3rd Saturday
Pushmataha.....	E. S. Patterson, Antlers	D. W. Connally, Antlers	
Rogers.....	W. A. Howard, Chelsea	P. S. Anderson, Claremore	1st Monday
Seminole.....	Claude S. Chambers, Seminole	Mack I. Shanholtz, Wewoka	
Stephens.....	E. C. Lindley, Duncan		
Texas.....	L. G. Blackmer, Hooker	Jehnnny A. Blue, Guymon	Subject to call
Tillman.....	T. F. Spurgeon, Frederick	O. G. Bacon, Frederick	
Tulsa.....	J. C. Brogren, Tulsa	Roy L. Smith, Tulsa	2nd & 4th Mon. Eve.
Wagoner.....	H. K. Riddle, Coweta	S. R. Bates, Wagoner	
Washington-Nowata.....	S. A. Lang, Nowata	J. V. Athey, Bartlesville	2nd Wednesday
Washita.....	A. S. Neal, Cordell	James F. McMurry, Sentinel	
Woods.....	C. A. Royer, Alva	O. E. Templin, Alva	Last Wednesday
Woodward.....	Joe L. Duer, Woodward	C. W. Tedrowe, Woodward	

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Thiocyanates in the Treatment of Hypertension*

W. TURNER BYNUM, M.D.

CHICKASHA, OKLAHOMA

More and more, with the correlation of experimental and clinical findings is there coming to be a uniformity of opinion, both as to the etiology and the treatment of the troublesome problem of hypertension. Since the brilliant work of Goldblatt¹ in the experimental production of hypertension by the induction of renal ischemia with the application of a clamp to the renal artery, rapid advances have been made in the understanding of this condition. This work has been materially advanced by the further work of Page² in producing hypertension following mechanical perinephritis.

The ischemic kidney liberates in excess a substance, renin, which reacts with an activator in the plasma to produce angiotonin which when injected into animals produces those effects which have been shown to characterize arterial hypertension; namely, cardiac augmentation, arteriolar constriction, and a constriction of the efferent arterioles of the kidney³. Thus it is widely held that angiotonin is involved in the pathogenesis of essential and malignant hypertension in man⁴.

The endocrine system, notably the adrenal cortex and hypophysis, is held to participate indirectly, in that its secretions maintain the blood vessels and heart in a state receptive to the hypertensive stimuli (angiotonin). This is well illustrated by the clinical findings in such conditions as in the hypotension of Addison's disease (adrenal cortical insufficiency) and in the hypertension of pituitary basophilism and certain adrenal carcinomata. The nervous system may play a similar part, especially in some types of hypertension in man in which the high state of nervous organization may even make it

a preponent factor, as the worried, tense, complaining, fretful, and resentful attitude of many patients suffering from essential hypertension is known to every physician. From the experimental standpoint it is interesting to note that the injection of Kaolin into the cisterna magna will produce a lasting hypertension, and that complete sympathectomy with cardiac denervations lowers to normal the arterial pressure of dogs with such neurogenic hypertension⁵. Equally interesting is the observation that extensive sympathectomy in dogs with renal hypertension has little immediate and no permanent effect on the level of arterial pressure⁶. This is because the clamp on the artery cannot be influenced by the sympathectomy.

The clinical picture and course of each case of hypertension is therefore probably a composite of the degree and the kind of renal endocrine and nervous participation. These multiple factors in the etiology of hypertension probably account for the many different measures, both medical and surgical, advocated with varying degrees of enthusiasm by workers in this field.

It is hoped here to emphasize that one of the oldest drugs used in the treatment of hypertension is the most physiologic and effective remedy in the treatment of the majority of cases of so-called essential hypertension of any of the measures advocated today. As pointed out above, it is generally agreed that the pathologic physiology responsible for the findings in this disease are cardiac augmentation, arterial constriction, and constriction of the efferent arterioles of the kidney.

Barker and Davis⁷ in a discussion of the mode of action of thiocyanates give the various theories previously held, and describe some very convincing experimental evidence to show that thiocyanates act as a peripheral

*Read before the Section on General Medicine, Annual Session, Oklahoma State Medical Association, May 21, 1941, in Oklahoma City.

vasodilator of prolonged and sustained action.

Thiocyanates have enjoyed varying degrees of popularity and disrepute in the treatment of hypertension for a number of years, but it remained for Barker⁷ in 1936 to explain the diverse results obtained by the different investigators. He believes that the thiocyanates are retained in the body to varying degrees in different individuals—they being a foreign substance in the body, each kidney eliminates them with varying facility; i.e., no definite dose will be effective in every individual—what is less than a therapeutic dose in one individual may produce toxic symptoms in another. Barker believes that the only safe method of controlling dosage is by the determination of the blood cyanate levels which, he states, should be kept between 8-12 mgm. per 100 cc. of blood. The method for determination is set out in his first article.

In discussing this problem, Dr. E. V. Allen⁹ of the Mayo Clinic, stated unequivocally that he thought the use of thiocyanates was the best method in the medical treatment of this condition. As a matter of fact, he has been far more liberal in his indications for their administration than I have, giving them in conjunction with phenobarbital in even moderately elevated blood pressure. I have been reluctant to give any other drug along with the thiocyanate, and have been more rigid in the selection of cases to which I administered this drug because I wanted to avoid being misled about the results obtained in a controlled series of cases.

With but few exceptions, all of the patients in the present series were first placed on a trial period of bed rest, usually lasting one month, along with adequate doses of sedatives, one of the theophyllin vasodilators, and a reduction in weight where indicated. Only those who failed to show adequate symptomatic improvement on this regime were given thiocyanates.

I wish to run over a series of 25 cases seen at the Chickasha Hospital Clinic in the past three years. Six of these cases have been reported in greater detail in a previous paper¹⁰.

The first patient, a 53 year old woman who is the widow of a Chickasha physician, first consulted me on December 10, 1938, because of weakness, nervousness, and dyspnea on exertion. She was taking some 17 different remedies for her various symptoms, and was buying sodium amytal, three grain capsules, in 500 lots which she was taking several times a day. Her blood pressure at this time was found to be 245/145. She was placed at absolute bed rest and on a reducing diet for a month. She reduced her weight

from 183 pounds to 123, and with the usual drugs, aminophylline and phenobarbital, her blood pressure dropped to 210/130. She was allowed to get up and around for a few days and her blood pressure promptly rose to within the neighborhood of the original level. Following the appearance of congestive failure she was placed on potassium thiocyanate and it was found necessary to give her ten grains daily to reach the optimal level of 12 mgm. percent in her blood. This patient has served as an unusual guide in this treatment as she has lived in the hospital all of this time, where daily blood pressure readings have been taken. They have ranged from 184/106 to 148/84. She is symptom free, is able to be up and around, eight to ten hours a day, and does just about as she pleases. We have observed her now for some 30 months, and feel that she has obtained an excellent result.

The second patient, a 45 year old professor of philosophy in a State College, gives a history of having had high blood pressure since her student days—her exact level she does not know. In March, 1936, she suffered a cerebro-vascular accident, associated with transient hemiplegia, however, she was able to carry on with her teaching the following year. In June, 1937, she had a second cerebro-vascular accident, about a month following which she consulted Dr. Harvey Stone of Baltimore who found her blood pressure to be 260, diastolic level not known, and who performed a bilateral splanchic resection with only temporary remission in the levels of her blood pressure. Within six weeks they had attained their previous levels. I first saw the patient in September, 1938, following a rather extensive cerebro-vascular accident resulting in hemiplegia and aphasia. At this time her blood pressure was 276/160. She was placed on bromides and phenobarbital, tissue extract, whiskey, aminophylline, and about everything that has even been suggested for the reduction of hypertension, with no appreciable lowering in her levels. Following a fourth cerebro-vascular accident she was placed on potassium thiocyanate, and it was found necessary to give her only three and one-half grains per day to maintain a blood cyanate level of 13 mgm. percent. Her mean blood pressure since this date has been in the neighborhood of 194/100. Although this patient has been unable to resume her duties we feel that she is an excellent demonstration of what the thiocyanates are able to do.

The seventh case in this series we feel is also a very interesting one. When this patient first consulted us she presented all of the classical signs and symptoms of congestive failure. Her blood pressure was found

Pt.	Age	Initial B. P.	Dose Daily	Subsequent B. P.	Bl. Cyanate Level	Presenting Complaints	Present Condition	Length of Treatment
Mrs. M. E. A.	53	245/145	10	184/106 148/84	12 mgm.	Weakness, nervousness dyspnea on exertion	Good	30 mo.
Miss R. W. P.	45	276/160	3.5	194/100	13 mgm.	H. A., deafness Had had 4 strokes	Persistent B. P. below 200/110. Compensated but unable to work Skin eruption	34 mo.
Mrs. J. S.	63	240/120	6	180/80	10 mgm.	Fatigue, H. A. sub- sternal distress.	Feels well, no H. A. or Precordial pain	19 mo.
Mrs. W. W. W.	51	260/110	5	174/90	11 mgm.	H. A., Vertigo	Feels well when not overdoing. Vertigo cleared	25 mo.
Mrs. R. L. B.	31	230/140	5	190/110	22 mgm.	Recurrent sore throat- nephritis	Pt. disc. treatment because of severe vertigo, weakness	6 mo.
Miss E. E.	32	210/120	10	160/100	10 mgm.	Nervousness, H. A., nephritis	Pt. very unstable disc. treatment because of sense of fatigue	6 wks.
Mrs. T. D. B.	52	240/140 (180/140)	6	180/100	10 mgm.	Paroxysmal Noc. dyspnea, edema	Responded dramatically to cyanates with disap- pearance of edema S. O. B.	11 mo.
Mrs. J. T. J.	59	260/120	6	190/110	16 mgm.	Obesity, fatigue s.o.b., pyorrhea H. A.	Disc. treatment follow- ing 2 strokes, vertigo weakness	3 mo.
Mrs. S. J. M.	56	230/120	9	178/80	12.5 mgm.	H. A., vertigo, nervous- ness	Good response but could not come in regularly for checks so advised disc. treatment	3 mo.
Mrs. M. M. M.	61	200/124	9	180/100	9 mgm.	Hemiplegia	Moved unable to con- tinue treatment	1 mo.
Mr. A. B.	50	240/120	4.5	185/118	13 mgm.	S. O. B., H. A. edema	Alcoholic, garrulous. Disc. treatment because of weakness	4 mo.
Mrs. M. E. B.	71	220/115	6	200/100	14 mgm.	Irrational following veronal EKG shows coronary thrombosis	Died in hospital after 3 weeks	3 wks.
Mrs. R. G. H.	66	250/130	6	210/120	13 mgm.	Diabetic coma nephritis	Died in hospital of uremia	13 mo.
Mr. C. H. H.	70	230/110	6	174/90	10.4 mgm.	Nephritis, H. A. Constipation	Developed diarrhea re- peatedly on drug, died of uremia	16 mo.
Mrs. J. S.	64	240/120	6	180/80	12.5 mgm.	Nephritis Paroxysmal hypertension and H. A.	Takes drug only inter- mittently with fair response.	9 mo.
Mr. K. E. P.	73	260/180	9	140/?	14 mgm.	Hypertension hemi- plegia, comatose	Pt. did well for 2 wks. in hosp. returned in comatose condition in wk. & died of uremia	1 mo.
Mr. D. B.	64	206/120	5	138/80	6 mgm.	Asymptomatic discovered at annual P. X. for Company	Pt. has had an excellent response and has been able to maintain job.	12 mo.
Rev. C. B. N.	48	258/120	7	168/78	12.5 mgm.	H. A., nervousness & transient hemiplegia	Feeling well and able to carry on duties as preacher	7 mo.
Mrs. W. L. D.	65	190/100	9	160/90	13 mgm.	H. A., weakness, dys- pnea, nervousness, in- somnia, palpitation, vertigo	No vertigo, H. A. or palpitation, feeling much better	6½ mo.
Mrs. W. H. G.	62	200/100	6	180/80	10 mgm.	H. A., nervous, in- somnia	Only returned for 2 observations, but was improved	1 mo.
Mrs. J. B.	47	190/100	6	146/88	8 mgm.	Light headed, nausea, constipation	Poor response, disc. because of vertigo responded to psycho- therapy	8 mo.
Mrs. L. E. P.	55	190/110	6	152/90	9 mgm.	Inexhaustible nervous compl.	Unstable individual flighty—treatment disc. as pt. refused further venipuncture	1 mo.
Mrs. E. S.	58	230/120	3	168/84	7 mgm.	H. A., nervous, in- somnia, palpitation, constipation	Markedly improved, no H. A.—sleeps better, has nervous skin eruption	8 mo.
Mrs. B. M.	42	240/140	7	190/100	12 mgm.	H. A., nausea, vomiting blindness intermittently	Disc. treatment because of diarrhea, skin erup- tion and vertigo	6 mo.

to be 180 140, and a previous reading by one of my colleagues before the onset of the congestive failure was 240 140. We gave this patient no other medication than potassium thiocyanate, grains six daily, which maintained the blood levels at ten mgm. percent. Along with this and bed rest, the patient responded dramatically with a disappearance of the edema, shortness of breath, and cardiac asthma. We have observed this patient for 11 months during which time her mean blood pressure has been 180 100. She has maintained a good state of compensation and is able to carry on her housework.

The sixteenth case presented in this series is a 64 year old male who had an asymptomatic blood pressure of 206 120, discovered in an annual physical examination required by the company for which he worked. This patient was told that he could not hope to keep his job with a blood pressure in this neighborhood although he was having no symptoms. He was immediately placed on potassium thiocyanate and given only five grains daily which were sufficient to bring his blood pressure down to levels acceptable to the company and he has been able to continue in his regular job.

I have discussed here only a few of the patients who I feel have gotten a remarkable result. On closer examination of the accompanying chart it is obvious that all the patients have not responded so well. Some of the patients were seen in a hopeless condition, and we do not feel that any of the deaths were in any way attributable to the thiocyanates.

We feel very keenly that all patients placed on this medication should be watched very closely, and only those who can return for regular observations and blood cyanate determinations should be considered as candidates for this treatment. The necessity for properly controlling each patient and regulating his dose is thus obvious, from a perusal of the cases here presented, when we see that two patients developed a blood level of 13 mgm. percent on a relatively small dose of about three grains per day, while several of the others necessitated the administration of nine or ten grains daily to obtain the optimal blood levels and a satisfactory reduction in their blood pressure readings. Barker found a variation in individual dosage from five grains per week to 15 grains daily¹¹.

Although most authors advise the maintaining of the blood levels between 10 and 15 mgm. percent, we feel that in many cases this is not necessary as several of our patients have received satisfactory diminution in their blood pressure levels and control of their presenting complaints on much lower

blood levels, we feel that each patient should be given only the minimum amount of the drug which will control his symptoms as long as the blood levels do not exceed 15 mgm. percent per 100 c.c. of blood. In one whose hypertension was on the basis of a chronic glomerulonephritis, it was necessary to get her blood levels in the neighborhood of 22 mgm. percent before there was an appreciable lowering of either her systolic or diastolic pressure. She carried these levels for six months without any major toxic symptoms, but it was not felt advisable to continue her on this treatment as she could not be observed as closely as we felt necessary. Barker¹² stated that the average patient does not develop severe toxic symptoms until the blood levels approach 30 mgm. percent, and thus it is seen that there is a rather wide margin of safety in the administration of this drug.

Three of the patients in this group developed a rather characteristic smooth, violaceous vesiculo-papular skin eruption on the flexor surfaces of forearms and chest, but in only one of these cases was it necessary to discontinue the medication. In two of the cases, a temporary lowering of the dosage permitted a clearing up of the eruption.

The most frequent toxic symptom encountered in this series and reported by other authors are fatigue and weakness, (75 percent of Barker's cases¹¹), symptoms which are almost the rule in patients started on this medication, but we do not feel this is adequate reason for discontinuing treatment as in the majority of cases these symptoms subside within three to six weeks after the institution of these measures. Aching and rarely cramping in calf muscles may be encountered in this period¹¹. Diarrhea has also been reported as a toxic symptom from this drug¹¹, but was encountered in only one of the patients in this series.

The objection most widely raised to the administration of this drug has been the fact that men in general practice, or those not having facilities for blood chemical determinations, could not avail themselves of this remedy because of the danger of allowing the blood levels to become too high. This objection, we feel, has largely been overcome by the placing on the market by the Eli Lilly Company of a very simple test kit which may be utilized by any doctor in his private office practice. The entire kit retails for only \$3.00, and requires only eight to ten minutes to make a proper determination. However, the test must be read in daylight, or preferably sunlight, and not in a dark room or against a colored background.

I think that it should be pointed out here that the thiocyanates do not cure the disease

of essential hypertension, but act merely as a "breaker" in the progress of events usually encountered in this condition and satisfactorily control the symptoms of the disease as well as prolonging the life of the patient. This has been shown by Barker¹¹⁻¹² in his more extensive series of cases observed over a longer period of time. He believes that the majority of patients showing a good response to the thiocyanates are spared the complications which usually destroy them (for example, congestive heart failure, coronary occlusion, cerebro-vascular accidents). In most patients the progression of arterio-sclerosis and other deterioration of the blood vessels seems to be retarded and occasionally arrested. However, many patients continue with a progressive vascular disease which leads to weight loss, anemia, wasting of the body, cardiac failure, and uremia. Instead of the majority of the patients so treated dying of coronary and cerebro-vascular accidents as would be expected, they are spared these and go on to die of uremia, and are far more comfortable and useful citizens during the progress of their disease.

Along this line, further work which seems to corroborate the ideas set out in this paper has been reported by Page¹³ and his associates in a recent article in which they describe the reduction of the blood pressure of dogs with artificially induced hypertension, using a renal extract prepared from normal kidneys. However, hypertensive humans seem to require continuous daily injections of the renal extract for improvement, and since the substance is not available commercially, it being necessary to use tremendous quantities of normal kidneys to extract a relatively small amount of this depressor substance and since the thiocyanates do produce the same effects, it is felt that until this particular preparation or some similar one is more highly refined and made clinically available, the thiocyanates present the most practical means available of satisfactorily controlling patients with hypertension.

CONCLUSIONS

Thiocyanates in the treatment of hypertension are becoming ever more popular in the symptomatic control of this disease. The factors responsible for this are the clearer understanding of the pathologic physiology of the disease, the mode of action of potassium thiocyanate, and the precautions to be observed in the administration of this potent substance. This is borne out both by a review of the literature on the subject and by the results obtained in the small series of cases here reported.

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DISCUSSION

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There is very little to add to the subject which has been well discussed by Doctor Bynum. I have been interested in this work for several years and have been using this drug in the treatment of hypertension in the medical section of the Out-Patient department of University Hospital for about three years.

In regard to the mode of action, I have nothing to add to Doctor Bynum's statement—this is—toxic as a peripheral vasodilator. However, there is a theory that the reduction in blood cholesterol and blood proteins causes increase in permeability of vessels and thus reduction in blood pressure in this way. The drug is cumulative and six to eight weeks are required in some cases for complete excretion after the drug is discontinued. Also three to eight weeks are required to attain maximum effects and blood concentrations on a given daily dose.

During the past three years, I have observed well over 200 cases of hypertension treated with the thiocyanates, these being selected at random; the only criteria for instituting therapy being hypertension. In reviewing 100 of these cases selected at random, my results approximate those of Doctor Bynum: 52 percent, no improvement; 40 percent, marked improvement both objectively and subjectively; eight percent, no appreciable reduction in blood pressure but marked symptomatic improvement. This includes all of the various etiological classes of hypertension and I have not selected any particular ones for treatment, however, 80

percent of these were so-called essential hypertension.

In regard to the types responding best to therapy—essential hypertension is the only type which has responded very satisfactorily. Chronic nephritis with hypertension, so-called malignant hypertension and endocrine types of hypertension have responded very little to this therapy. As noted in Doctor Bynum's report, younger individuals do not respond as well as the older patients. My best results have been in the older arteriosclerotic individuals over 45 years of age; 65 to 70 or even 80 years of age, and I cannot explain the reason why. One would expect those with marked arteriosclerosis to be resistant to this kind of therapy because of the loss of elasticity of the vessels, but it works out differently. Younger patients, in twenties or thirties, have failed to receive any appreciable improvement in most instances.

I recall an interne at the University Hospital who had blood pressure of 190/120 and who took six grains of Sulfocyanate daily for about seven days. He became so weak and his muscles ached so that it had to be discontinued. His blood concentration was only five mg. percent and he received no drop in blood pressure.

I have noted that there has been a poor response in most diabetic patients, which may be due to the arteriolar pathology present in diabetes.

It has been noted by Barker and others that following sympathectomy, some have responded very well to Sulfocyanates where they received no response before the operation.

In regard to the contraindications, I have noted none whatever, and this is noted in papers and statements by Barker, et al. I have used it in all kinds of hypertension that presented themselves and have noted no types of cases in which it is contraindicated.

DESIRABLE BLOOD CONCENTRATION

As Doctor Bynum has stated there is no definite blood concentration that one should attain for maximum benefit. Each patient responds at a different blood level. Some get almost spectacular changes on an almost negligible blood concentration. Others necessitate eight to ten mg. percent for reduction in blood pressure. As a general rule, the upper limits of safety are between 10 to 15 mg. percent but some become quite toxic on a level of six or eight mg. percent. Usually if there is no improvement when blood concentration reaches 15 mg. percent, I discontinue treatment.

DOSE

The dose in my patients varies from one and one half grains to 18 grains daily, which

of course varies with the rate of excretion and this varies with renal function. In older people, the rate of excretion is usually slower than in younger people and thus the dose is smaller. As a kind of routine, I start on a daily dose of three grains and check patients in five to seven days the first time and determine a maintenance dose according to the blood concentrations and responses at weekly intervals. In some cases, the maintenance dose increases after the first few months of treatment, possibly due to an increased tolerance of the drug and this necessitates of course, increase in dose. As to the difference in potassium and sodium salts, in humans no difference has been noted, but Barker has noted in dogs given the drug intravenously, deaths followed the potassium salts in several cases, which he felt was due to ventricular fibrillation which was caused by the potassium ion present. There is no difference in efficacy of Elixir and the Enseals, except that the Enseals are more palatable.

TOXIC MANIFESTATIONS

These have been mentioned by Doctor Bynum. I have had no fatalities attributable to this drug and only two cases with skin manifestations, both of which cleared with discontinuing the drug and did not return when therapy was resumed. I have had several occasions to become alarmed about patients taking this drug and in every instance the patient failed to return as instructed for observation and check-up. In one particular instance, a lady 65 years of age who was instructed to return in one week and instead came in at the end of the second week, in an ambulance. She appeared extremely toxic, as if she had been poisoned, vomiting and very ill; very feeble pulse, blood pressure 90/60 where she had a blood pressure of 200/100 two weeks previously. She had taken three grains daily and when she became so ill 48 hours before coming in, she stopped the drug because she was too sick to take it, for which I am very grateful. Blood concentration was 25 mg. percent. She was given stimulants, fluids and no drug for one week and she recovered. She is now taking the drug but a much smaller dose. This is merely one occasion to illustrate the importance of frequent blood concentrations and checks until a maintenance dose is established.

In conclusion, I repeat Doctor Bynum's statement that this drug is the most valuable one that we have for treatment of hypertension and is effective in approximately 50 percent of the cases of hypertension. Thus, it is more effective in a large percentage of patients over a longer period of time than any other drug which we now have. Con-

trary to some reports published, it is reasonably safe but only when carefully controlled by the blood concentration at frequent intervals.

I should like to ask Doctor Bynum if he

has noted any appreciable anemia or weight loss attributable to the cyanates, in the cases which he has reported; also whether he gives cyanates in cases with coronary occlusion with hypertension.

Mental Hygiene in Our Public Schools*

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The definition of Mental Hygiene has been clarified and enlarged by the differentiation of Mental Hygiene from the diagnosis and therapy of Psychiatry, and the realization that Mental Hygiene aims at something more than the prevention and treatment of mental diseases, and that Mental Hygiene strives to build personalities and to prevent behavior difficulties and emotional maladjustment in juveniles and adults. It teaches that home environments, which all children experience, are fraught with lifelong significance for the child, because they may involve interferences and deprivations that cause a feeling of guilt, anxiety, and a feeling of resentment toward the world that he has to live in and these distortions usually persist throughout life.

Mental Hygiene helps us to see that early training of the child is necessary as the child must be socialized for his own guidance and for the protection of society. It also teaches that mental health of the individual may be seriously jeopardized by the way these compulsions, deprivations, and prohibitions are taught him, and by the way he feels about the situation, and the people he daily contacts. If the process of weaning and learning to accept food stuff, of toilet training, of managing his emotional reactions is administered too severely or too rapidly, and without the proper affection of the parent, then the child will feel deprived and regard the world as cruel. If the prescribed social acts are taught with too much punishment, the child will feel that other persons are his enemies and he will resist all authority. If his education teaches him he is a sinful, unworthy child, he will conceive of himself in those terms and act out the role of a bad child or express his feeling in anti-social acts of self defeat. Therefore, it is not only what society imposes on the individual, but the way in which his early education and training is conducted, that makes or mars the mental health of the child.

There is still a tendency in many parts of our country, both lay and professional, to think of Mental Hygiene as having primarily to do with sub-normal individuals, psychopathic, delinquent, or peculiar individuals, and to build a program in the community and the schools chiefly from the standpoint of Medical Service. Psychiatrists and Mental Hygienists agree this is important, but it is not the most significant element in Mental Hygiene.

The late Dr. William A. White of Saint Elizabeth hospital, defined Mental Hygiene in these words: "The Mental Hygiene Movement is, essentially, as it exists today, a Public Health Movement which has as its major objective the prevention of the disabilities and wastage of mental diseases. It has as its goal what I think can best be defined as the good life, perhaps qualified by the additional words, well lived. Its realm is what I would call the Psycho-Social level of development, and its methods must be evolved from the basic facts that are contributed by the various Sciences which make for the understanding of human behavior."

The aim of Mental Hygiene is clearly set forth in a statement for the White House Conference on Child Health and Protection: "For practical purposes one may conclude that Mental Hygiene is a way of life that shall enable us to obtain the optimum of mental health and personality development. This may be considered from the standpoint of the individual in his striving to get along happily and effectively in his work or with his family; or from the general standpoint of the study and prevention of the various forms of mental mal-adjustments. The aim in either case—Mental Health—may be defined as 'the adjustment of individuals to themselves and the world at large with a maximum of effectiveness, satisfaction, cheerfulness, and socially considered behavior, and the ability to face and accept realities.'"

Today our greatest need is not so much for intelligence and trained minds, as for

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sanity and the courage to fight the battles of life, for we now realize how intelligence in a distorted, mal-adjusted, unhappy individual can be used for destructive purposes, for defeatism and escapes.

The highest academic attainment does not guarantee a socially minded career of a well adjusted individual. In the interest of human happiness, we could wisely sacrifice much of our present academic training for better personality and social adjustment.

Due to the large number of young people seeking help through our out-patient clinic during the past five years, the writer was glad of the opportunity to join the Guidance Committee of the Tulsa school system in the capacity of consulting psychiatrist.

This committee has for its object the prevention and correction of mal-adjustments of children in elementary grades. Every effort is made to prevent or reduce the occurrence of situations which contribute to lack of emotional adjustment in the children.

One phase of prevention is emphasized through Kindergarten observation classes, through which they reach the mother during the early life of the child. The principals and teachers are instructed to recognize symptoms and seek an explanation of conduct in cause, as well as to adopt proper remedial measures to remove or modify these causes, and to help secure proper adjustments to the school environment.

The Child Guidance Committee of the Tulsa public schools includes a full time physician, two psychologists, two instructors of family life education, four social service workers, a consulting psychiatrist, the heads of several special departments in the school system, and also the Judges of the Juvenile and the Probate courts of Tulsa.

The Guidance Program includes the following service:

A. Adult Education

1. In service training of teachers
2. Mental Hygiene classes for parents

B. School Program

1. Instruct the class room and home room teachers in the principle of guidance.
2. Guidance specialists to stimulate, guide and check guidance activities of teachers and give specialized aid when needed.
3. Promote a research and measurement program as an essential part of successful guidance work.
4. Guidance of the problem pupil under the direction of the consulting physician.

5. The health department makes an essential contribution to the understanding of each case.
6. The social service worker is able to bring an adjustment in many cases by establishing contact with the home.

Children are referred to the clinic by the teacher because of unacceptable behavior, such as disobedience, stealing, lying, temper tantrums, truancy, reading disabilities; because of personality problems, such as nervousness, speech defects, inattention, shyness; because of school difficulties, such as work retardation, indifference, or any disorder or mal-adjustment that makes it desirable to have an analysis of their capacities and a study of the cause of their difficulties.

When the clinic is notified by the teacher of a student's need for study, the case is assigned to a social service worker for a history of the child's problem from the school authorities. The worker next goes into the home for a conference with the parents and a thorough study of the home life of the child is made. Also, a complete family history is taken. This is made into a history form and presented to the committee at the next conference and is thoroughly discussed, and recommendations are made as to the future guidance of the child by the teacher, and advice given the social service worker to instruct the parents when we find the home environment to be a contributing factor in the mal-adjustment of the child.

The teacher and also the social service worker is instructed in any environmental adjustment, such as changes in school placement, use of recreational opportunities that are available, change in physical regime and the like.

When medical or surgical care for physical handicaps seems necessary the clinic refers the problem to the family, and takes no responsibility for treating such disabilities.

At the beginning of the present school year a survey of the elementary grades was made to classify all students who were retarded in their work. Six hundred students showed reading difficulties; 200 classified as nervous, stammerers or stutterers; several hundred with low I. Q. were tabulated for special study and classification.

In two of the elementary schools, vocational shops were organized and the pupils with low I. Q. were given a special program. It was found that most of these children had reached their academic level and were only drifting in their work. They were discouraged because they were unable to complete the assigned work, were restless, and made a serious problem for the class room teacher. Their academic program was re-

duced to two hours a day and the remainder of the time was spent in the shops.

In a very short time a marked change was observed in all of this group. They were interested in not only their academic work, but the whole school program and are no longer a problem for their teachers.

It is the hope of the Guidance Committee to continue this work on through the elementary grades and into the Junior and Senior highschool. With a like program and guidance, even though they have accomplished little in their academic work, they will remain in school—out of the Juvenile courts and corrective institutions, and a large num-

ber of them will make good mechanics and useful citizens.

We have been able to correct the home environment in a large number of nervous, mal-adjusted children during the past two years. Likewise, we have given aid to many parents, in fact, we have to help adjust the parents in most cases before we can be of aid to the child.

I feel this has been a worthwhile work and am glad to have had a part in a program that will help a large number of young people to make the proper adjustment in life and be more able to face the difficult task of living as we have it today.

Diphtheria of the Middle Ear

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Diphtheria of the ear, and especially of the middle ear, has been reported from time to time both in this country and in Europe. Drury¹ in 1925 reported a thorough review of the literature with a total of 194 cases to which he added two cases of his own. Since that date we have been unable to find a reported survey of the literature.

The purpose of this paper is to stress the advisability of smears and cultures of all pus discharges from the ear. Within a period of 12 months we have found positive diphtheria smears and cultures on five patients having a discharge from the ear. These cases were children and the infection was limited to the middle ear.

Each child was given antitoxin and in general the response was prompt. The ear involvement was not associated with diphtheritic infection of the throat and four of the five children had been immunized against diphtheria. Case 2, B. W., however, had a positive nasal culture for diphtheria. None of the patients were acutely ill and diphtheria was not suspected until the organism was found by smears and cultures. Costen² in reporting his two cases stressed the atypicality of the symptomatology, suggested that the disease frequently may be overlooked, and referred to a tendency toward mastoid involvement.

The following is a brief history of the four cases:

Case 1. T. C., age four years, was referred to us by Dr. W. L. Bonham for examination of the discharge from the left ear. Laybourne's (Modification of Albert's) stain and Gram stain both showed characteristic

Kleb-Loeffler's bacilli which was confirmed by culture. The patient was first seen by Doctor Bonham because of a slight head cold, elevated temperature, and purulent discharge from the left ear.

Physical examination showed septic adenoids and tonsils and an acutely inflamed tympanic membrane on the left with a posterior perforation from which pus was draining. No membrane was observed. The culture from the throat showed a mixed infection of staphylococci, catarrhalis, and an occasional short-chained streptococcus. No *B. diphtheriae* were seen in direct smear or culture.

10,000 units of antitoxin were given and the patient promptly recovered.

Case 2. B. W., age 11 years, was first seen by Dr. W. M. Mussil because of an earache of only four hours' duration. The temperature was 102°; the throat was negative, but there was a mucopurulent discharge from the nose. The left ear-drum was red and bulging. When the drum was perforated, a purulent discharge escaped. We were asked to examine a direct smear of the exudate as well as to culture it for predominating organisms.

The smear showed numerous bacteria of mixed types including several Gram-positive bacilli with bi-polar bodies. The culture smears showed many typical *B. diphtheriae* with Laybourne's stain. The nose and throat were then cultured. The nasal culture was positive for *B. diphtheriae*, but the throat culture showed only mixed organisms.

The patient was given 10,000 units of diphtheria antitoxin and clinically improved,

although it was ten days before the first negative nasal culture was obtained.

Case 3. L. T., age four years, was seen by Dr. O. A. Watson because of a sore throat which was followed in two days by spontaneous perforation of the left ear-drum with a purulent drainage. Two days later the right drum became red and bulged. Paracentesis was performed and the exudate sent to us for microscopic examination and culture. The direct smears and cultures from both ears were positive for diphtheria. Neither drum showed any evidence of membrane formation.

The patient was given 20,000 units of antitoxin. A rather rapid subsidence of symptoms followed. Repeated throat cultures showed mixed types of bacteria, but no diphtheria.

Case 4, D. R., age four years, was also seen by W. L. Bonham because of a sudden severe pain in the left ear. The patient had been sick for two weeks with a mild upper respiratory infection, low grade fever, rhinitis, and moderate redness of the throat. In the middle of the afternoon the child developed a severe sudden pain in the left ear. Doctor Bonham saw the patient within three hours.

The drum was opened and drained a serosanguinous fluid. No frank pus or membrane were observed. A slight drainage continued for four days, and then a similar episode occurred involving the right ear. Direct smears and cultures were made from the serosanguinous material from both ears. The smears showed a few pus cells on the left, and red blood cells on the right, but no bacteria. The culture from the left ear, however, showed a mixed infection including many characteristic *B. diphtheriae*. The right ear culture was similar except that the bacilli present did not exhibit bi-polar bodies.

Upon receipt of the laboratory report, the patient was given 5,000 units of diphtheria antitoxin which was followed by a subsidence of clinical symptoms except for slight drainage from the right ear which continued for seven days.

Case 5. S. W., age 11 months, was first seen by Dr. C. M. Pounders because of fever, questionable rash, loose bowels, and an irritable disposition. The fever was higher in the afternoons and ranged from 103° to 104°.

At the time of the first examination both ear-drums were moderately red but not bulging. There was no material change in the child for the next three days except increasing redness of the drum with definite bulging on the third day. Dr. J. P. McGee was called to see the child and opened both ear-drums.

Drainage was very slight for the first 21

hours, and there was no apparent clinical improvement. The second day, however, the discharge became profuse and was foul smelling, but no membrane was observed.

The child was hospitalized and smears and cultures from the exudate showed typical bi-polar diphtheria bacilli. Cultures from the nose and throat were negative.

This child has not as yet been immunized against diphtheria.

Repeat cultures from the ears were taken and planted on sugar medias in order to rule out diphtheroids. There was marked acid production in the dextrose media and none in sacchrose. These cultural characteristics classified the organism as diphtheria bacillus. Guinea pig virulence test was negative.

Following the first laboratory report the child was given 10,000 units of antitoxin. There was an especially rapid drop in temperature with an associated prompt clinical improvement.

DISCUSSION

It is a significant fact that of the five children, four were doctors' children and the other child was visiting in the home of his grandfather who is a doctor. We believe this high incidence is due to the earlier use of laboratory examinations in the physicians' families, rather than indicating the father physicians as the carriers. In case 4, the entire family and maid were carefully examined and cultures made from both nasopharynx and throat without finding any evidence of carriers. In case 5, throat smears and cultures of the father were also negative.

Whether these bacilli were true diphtheriae or diphtheroids is a debatable question. Identification depended upon their morphology and special staining and cultural characteristics. Park and Williams³ recognize two groups of *B. diphtheria*. One group is toxin producing; and the other, although exhibiting all the staining and cultural characteristics, still does not produce toxin. Differentiation depends entirely upon virulence tests.

Virulence tests were performed on the cultures from cases 1, 4, and 5, but did not show virulence sufficient to produce positive skin reactions in the guinea pigs. Friesen⁴, however, is of the opinion that non-virulent organisms, or at least organisms that do not form toxin, can, however, produce ear infections.

Fowler⁵ in his recent report on acute otitis media classified all the diphtheria-like bacilli recovered from his cases as diphtheroids based on the fact that the organisms did not ferment glucose. The fermentation of glucose is a characteristic of toxin producing *B. diphtheria* as well as a few non toxin producing organisms. The assumption that all

these bacilli are diphtheroids is contrary to that expressed by most of the authors of previous case reports.

In suspected cases of diphtheria of the throat, the smears and cultures from the exudate demonstrate only the presence of diphtheria-like bacilli but do not necessarily indicate the gravity of the case. It is the clinical appearance that determines this factor. If the infection involves the middle ear rather than the throat, why would not the same criterion apply?

These five cases we are reporting all improved promptly following the administration of diphtheria anti-toxin. Clinically, this improvement is additional evidence in favor of these bacilli being an etiological factor even though the animal virulence tests were negative.

SUMMARY

1. Five cases of acute otitis media are reported in which characteristic diphtheritis or diphtheria-like bacilli were prevalent in direct smears and cultures.
2. These cases were encountered within a period of 12 months.
3. Routine smears and cultures on suitable media should be made on all purulent material from the ears.

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Report of a Case of Multiple Intestino-Uterine Fistulae Following Precipitate Labor^{*}

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We are reporting this case in some detail because of its rarity. We have not been able to find a similar case in the Literature.

History: Mrs. I. C., white, age 45, para 5, grav. 5, entered the hospital May 23, 1941, because of "Rupture of vagina and rectum." The past history, other than that relative to the chief complaint, was unimportant. She had delivered spontaneously five times. Her last pregnancy terminated with a precipitate labor. The child weighed seven and one half pounds. This was in 1921. One week after delivery she noticed the passage of gas per vaginam. Shortly after this she became "very ill"; her symptoms were abdominal pain, nausea, vomiting, chills and fever. This continued for about three weeks, after which time she gradually recovered. She continued to pass gas per vaginam for a number of months and occasionally she thought some feces were expelled in this way. After five or six years she began to pass more and more feces per vaginam and less and less per rectum. This state of affairs continued till 1938, since which time she has passed no feces per rectum, all of it being expelled per vaginam. Menstrual periods have been regular, one to two days in duration every 28 days.

Examination: T 98, P 88, R 22, 124/76. General physical examination revealed no gross abnormality of the head, neck, thorax, abdomen or extremities. The respiratory, circulatory and urinary systems functioned normally. Wasserman and Kline negative. Hb 85 percent, R.B.C. 4,120,000, W.B.C. 8,250, P.M.N. percent 74, L. 26. Sedimentation rate ten percent in one hour. Catheterized urine essentially negative.

Pelvic examination showed a relaxed pelvic floor, with a scar of an old second degree laceration. There was a fecal discharge coming from the vagina; cervix large, patulous (admits tip of index finger) and stellately lacerated. Corpus fixed, very firm and lies to the left of the midline in moderate retro displacement; no masses made out in right fornix.

Rectal digital examination confirmed the above findings, but was very painful because of an extremely tight anal sphincter.

Vaginal speculum examination showed feces and barium exuding from the patulous cervix; (she had been given a barium enema two hours before).

Proctoscopic Examination (by Dr. R. L. Murdoch): "There is normal looking mucous membrane in ampulla up to a uniformly constricted area less than one cm. in

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1. Pre-operative Barium enema. The barium enters the uterus and ileum, as well as the large bowel.

diameter eight and one half inches up, which will not allow passage of the proctoscope farther. Etiology unknown. There is a constriction of upper rectum with rectocervical fistula."

X-Ray Examinations: Barium Enema: (Figure 1). "Fluoroscopic and radiographic examinations show a fistulous tract between the sigmoid and uterus. The fistula is located about four cm. proximal to the recto-sigmoid junction. Patient unable to retain the barium well."

Following this, lipiodal was injected into the cervix. (Figure 2). "Lipiodal injection into the cervix shows communication between the uterus and sigmoid. Colon as previously described."

At this time our diagnosis was a uterine-sigmoid fistula. The question was just what sort of operative procedure should be attempted. Should we do a primary colostomy and later attempt a cure of the fistula or should we do a one-stage procedure? It was thought that the fistula was high enough so that it would be accessible through an abdominal incision, but we felt that our operative procedure would have to be guided by our findings when the abdomen was opened.

Operation: The vagina was prepared surgically (as well as possible). The abdomen was then opened suprapubically. There was no omentum. The pelvic structures were found to be densely matted together, the uterus being pulled to the left and posteriorly and held there by dense adhesions to the

sigmoid. The ileum was fastened to the uterus at the side of the sigmoid. When it was released, it was found to have an opening in it, one cm. in diameter, which connected with the cavity of the uterus. This opening was 18 inches proximal to the ileocecal junction. This fistula was closed transversely, using two layers of sutures. The sigmoid was then dissected off the uterus and it was found that it had two openings connecting with the cavity of the uterus. The upper opening was one inch in diameter, the lower opening one half inch in diameter. These were separated by a narrow band of scar tissue one fourth inch in diameter. Immediately caudad to the smaller opening in the bowel was a scar, constricting the lumen of the bowel so much that we could not introduce a small hemostat into it. The opening into the uterus was found to be a rent of the left wall which was two inches long and three fourths an inch wide at its widest point. (Figure 3).

It was mechanically impossible to repair these defects due to lack of space, so the entire uterus, the left tube and ovary were removed to get more room. After this was done, the two openings in the sigmoid were converted into one by removing the small scar between them. Then a longitudinal incision of about one inch in length was made into the rectum, through the stricture. These procedures converted the defects of the sigmoid into one opening which was closed transversely by two layers of inverting sutures. Four drains were then placed and the



2. Pre-operative Lipiodal injection into uterus. The cannula is in the cervix. Contrast medium escapes into sigmoid through fistula.

abdomen closed in layers, using interrupted sutures throughout of catgut, silkworm-gut and dermal.

The operation was approximately three hours in duration. The greater part of this time was used in orienting ourselves (due to the terribly distorted anatomy) and in freeing the uterus from the densely adherent gut. Her condition remained fair throughout, her lowest blood pressure reading being 100/65. She was given 500 cc. of blood and 500 cc. of saline during surgery. The anesthesia was pontocaine, later reinforced with cyclopropane.

Post-Operative Course: This was rather stormy. Our treatment in general consisted of blood transfusions, fluids by clysis, using sodium sulphapyridine in the saline. Concentration of sodium sulphapyridine varied from four to eight mgs. percent until it was discontinued on the ninth post-operative day. Gaseous distension was handled by nasal suction. At no time was there any fecal drainage. On the seventh post-operative day she was given an oil retention enema (four ounces). This was followed by three copious bowel actions per rectum. The highest fever, 101.8, occurred on the ninth post-operative day, at which time the abdominal wall infection was deemed to be the cause. Following this, she rapidly improved. She was allowed to be out of bed on the seventeenth post-operative day, with bath room privileges on the twentieth day.

Follow-Up: Four weeks after operation she was given a G. I. series and Barium enema. (Figure 4). The report: "G. I. series and barium enema show no evidence of pathology. There is a slight narrowing



4. Post-operative Barium enema. Good filling of the bowel.

of the sigmoid colon at the site of repair of the bowel without any evidence of obstruction; wall of the sigmoid is flexible and dilates on pressure."

She returned for a check-up one month after leaving the hospital. She states that she feels well, has a good appetite, eats what she wants and has no trouble with the bowels. Vaginal and rectal examination at this time reveal no pathology.

DISCUSSION

Our conception of this woman's illness is that at the time of her precipitate labor she ruptured the uterus. According to the authorities, spontaneous uterine rupture, i.e., rupture of non-traumatic or non-instrumental etiology, occurs rarely; once in 1,000 to once in 1,750 deliveries. It is more likely to occur in women who have (1) an operative scar in the uterus; (2) a former pelvic operation (fixation); (3) an instrumental delivery; (4) an inadequate pelvis; (5) oxytoxics or (6) any tumor or stricture obstructing the birth canal. This patient had none of these predisposing conditions.

The usual site of the rupture is on the posterior surface at the junction of the lower uterine segment with the contractile portion. The next most common site is the anterior wall. The site of this rupture was the left wall. This is an extremely vascular area. We believe that at the time of the rupture, the defect was plugged by sigmoid and ileum, which effectively prevented hemorrhage. The bowel then adhered to the



3. The uterus (removed at operation). Forceps are introduced through fistulous opening and come out through cervix.

uterine wall, and as involution took place and the uterus contracted down, enough pressure must have been exerted on the bowel which was in the defect to produce sufficient ischemia to produce sloughing, thus creating the fistulae. As time went on, the scar in the sigmoid below the lower fistula contracted down more and more, thus creating the partial obstruction which gradually diverted more and more of the fecal current over through the hole in the uterus and on out through the cervix.

SUMMARY

The case of a patient who had multiple intestino-uterine fistulae is reported.

Included in this report is (1) our idea of the etiology and (2) a description of the operative procedure which was carried out to correct this condition.

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A Study of Compound Fractures*

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This paper deals with the treatment of compound fractures on the Orthopedic Service of the Oklahoma State University and Crippled Children's Hospitals and gives a summary of the results of 77 cases treated in the past five years.

The patients treated come from all over this state, and some of them travel 200 or 300 miles before they arrive at the hospital. We found that 45 percent of the cases arrived within six hours after the injury, 18 percent within 12 hours after injury, 20 percent within 24 hours after injury and 17 percent within 40 hours after injury. No patient arriving more than 40 hours after injury was included in this series.

The manner of treatment depended on the length of time that had elapsed since the injury. We have divided the cases into three groups, one in which a debridement was carried out within 12 hours after injury, a second in which the wounds were cleansed in cases over 12 hours since injury, and a third in which the wound was treated only by sterile dressing. The results will be taken up after a short discussion of the general treatment routine followed on the Ortho-

pedic Service in cases of fresh compound fractures.

Compound fractures are considered surgical emergencies and are given treatment immediately on arriving at the hospital. Many patients are in shock from severe trauma, hemorrhage, or pain from improper splinting during transportation. In these cases the general condition of the patients is of primary importance and the shock is treated either before or simultaneously with the treatment of the compound fracture. In cases of profound shock with a systolic blood pressure below 80, the fractures are immediately splinted or placed in temporary traction and the shock is treated on the ward with the usual procedures of external heat, sedation, fluids, transfusions and supportive drugs if necessary. If the systolic blood pressure is 80 or above the shock is treated simultaneously with a debridement and reduction of the fracture in the operating room. On the operating room table morphine is given and fluids are started. Heated blankets are used and the head is usually lowered. Blood serum can be obtained from the blood bank in a few moments and is given intravenously without being typed. If needed, a transfusion of whole blood can be given from the

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blood bank within a short time. If x-rays were not taken on the way to the operating room they are taken during or after treatment for shock has been instituted and with the aid of a portable machine.

As soon as the supportive measures have been instituted and the condition of the patient permits, a thorough debridement of the wound is carried out. No antiseptic solutions are used directly in the wound since they act to coagulate and destroy the living tissue cells on the surface of the wound and further injure the already devitalized tissue. Instead, the wound is covered by a sterile gauze sponge and the surrounding skin is shaved and thoroughly scrubbed with soap and water; and then it is cleaned with ether up to the edges of the wound. This procedure may take from 20 to 30 minutes. The skin surrounding the wound is then prepared with either merthiolate or mild iodine and sterile draping applied. At this stage new gowns and gloves are obtained and debridement and irrigation of the wound are started. The skin margins of the wound are trimmed back one eighth an inch by sharp dissection carrying with it the subcutaneous tissue. The wound is then irrigated with copious quantities of normal saline solution. This procedure is done by means of a sterile can, tube and nozzle so as to reach the deepest recesses of the wound. The wound is enlarged if necessary and the lavage is carried down to the bone ends. All macerated and devitalized tissue is dissected away by sharp dissection. All hemorrhage is controlled by fine chromic ties. Small, loose and dirty pieces of bone lying loose in the wound are removed, but larger pieces, whether attached to periosteum or not, that are needed to fill a defect in the bone are left behind. As soon as the debridement is finished, the fracture is reduced while the bone ends can still be seen. The fracture is fixed by means best suited to the case. Vitallium plates and screws are frequently used for rigid internal fixation, but equally often pins or wires are placed in the bone above and below the fracture, and after reduction these wires are incorporated in the plaster. Since the advent of sulfanilamide, and more recently sulfathiazole, we have been sprinkling from four to ten grams directly into the wound.

Before the sulfonamides were introduced, we were closing the wounds loosely in only very selected cases. Only fairly clean wounds, and in cases where not more than six to eight hours had elapsed since the injury, were closed. Since the sulfonamides have been available we have been approximating the skin edges of the wound in cases where no more than 12 hours have elapsed since the injury. In addition to using the

sulfonamide drugs locally in the wound we continue the chemotherapy orally, giving approximately one gram every four hours for about one week. A prophylactic dose of tetanus anti toxin and gas serum is also given.

Though we do not have a large enough series at the present time to compare the results of cases treated with and without sulfonamides locally, we feel that there has been a decrease in gas gangrene and serious pyogenic wound infections in the cases where sulfonamides were used locally in the wounds. In the last 18 cases in which we have used either sulfanilamide or sulfathiazole locally in the wound we have not had a single infection of gas gangrene or tetanus and only one moderately severe pyogenic infection resulted in osteomyelitis. Of course, this is a small number of cases and no conclusive evidence can be reached as yet. The debridement and irrigation reduce the number of organisms in the wound to a minimum. The sulfanilamide or sulfathiazole locally in conjunction with the natural defense mechanism of the body act to overcome the remaining organisms of the wound, decrease the chance of infection and make it relatively safe to approximate the skin edges. Under no circumstances, however, do we dispense with debridement and irrigation and depend upon sulfanilamide or sulfathiazole stuffed or packed into a dirty wound to take the place of adequate surgery and debridement.

In compound fractures more than 12 hours old it is likely that the contaminating organisms have already invaded the surrounding tissue beneath the surface too deeply to entirely obviate some infection in spite of a thorough debridement and sulfathiazole locally in the wound. In these cases most of the wounds are packed open with vaseline gauze following surgery so that the infection will not be developing in a closed wound. Even though sulfonamide drugs are used locally we still pack the wound open; however, with more experience in local chemotherapy the results may point to a safe closing of the wound even though more than 12 hours have elapsed since the compound fracture. In several of these cases where the wound has turned out to be clean within one week and temperature remains normal, we have resorted to secondary closure of the wound, after the gauze has been removed.

One group of cases of our compound fractures has been treated without debridement. Most of these cases were small puncture wounds in which it was the judgment of the attending physician simply to cover the puncture wound with a sterile dressing and reduce the fracture by closed manipulation.

Some of the cases had previously been attended by local doctors and the wounds had either been treated by a strong antiseptic solution, packed open without debridement, or sutured. Three of these cases were small calibre bullet wounds in which the wounds were left strictly alone.

As mentioned before, we have divided the 77 cases into three groups. In the first group are 35 cases in which debridement was carried out within 12 hours after the injury. In 30 of these cases the wounds were closed and in five they were packed open either because of skin defects or by choice. Of the 30 cases in which the wounds were closed, 22 resulted in early healing and two in serious infection followed by osteomyelitis. The condition of the wound is not known in three cases. There was no case of gas gangrene or tetanus in this group. There were two deaths and one amputation. One of the deaths was an anesthetic death and the other was a severe injury with a skull and spine fracture. The amputation was done because a tourniquet had been left on the extremity for three and one-half hours before the time of arrival at the hospital. In the five cases where the wounds were packed open, there was early healing in four. Serious infection developed in one case followed by osteomyelitis and non-union. There was one case of gas gangrene resulting in death. This wound had been thoroughly cleansed and packed open 11 hours after the injury.

TABLE I
DEBRIDEMENT UNDER 12 HOURS
(35 cases)

	Wounds Closed 30 Cases (Sulfanilamide 9 Cases)	Wounds Open 5 Cases (Sulfanilamide 9 Cases)	Totals
Not infected—			
early healing	22-70%	4-80%	26-74%
Serious Infection—			
osteomyelitis	2-6 %	1-20%	3-9 %
Incomplete (for			
wound healing)	3	0	3
Gas Gangrene	0	1	1
Tetanus	0	0	0
Union	24-80%	2-40%	26-74%
Non-Union	1- 3%	2-40%	3- 9%
Incomplete (for			
union)	2	0	2
Amputations	1	0	1
Deaths	2	1	3

The second group consists of ten cases in which a debridement was carried out over 12 hours but under 40 following the injury. In six of these cases the wounds were closed. Early wound healing occurred in two of these six cases and serious infection developed in the other four, resulting in osteomyelitis. There were no instances of tetanus or gas gangrene. The wounds were packed open in the remaining four compound fractures, and in none of them did the wound heal early but there were two cases of serious infections resulting in osteomyelitis. One patient developed gas gangrene but recovered. There was one death due to pulmonary embolism and laceration of the liver. There was one amputation for gas gangrene in a wound that was packed open 18 hours after the compound fracture.

TABLE II
DEBRIDEMENT OVER 12 HOURS AND
UNDER 40 HOURS
(10 cases)

	Wounds Closed 6 Cases (Sulfanilamide 3 Cases)	Wounds Open 4 Cases	Totals
Not infected—			
early healing	2-33%	0	2-20%
Serious infection—			
osteomyelitis	4-67%	2-50%	6-60%
Tetanus	0	0	0
Gas Gangrene	0	1	1
Union	6-100%	1-25%	7-70%
Non-Union	0	1-25%	1-10%
Amputations	0	1	1
Deaths	0	1	1

In the third group of 32 cases no debridement was done. Seventeen of these cases had very small puncture wounds, and three were small calibre bullet wounds. Five additional cases had been treated by local physicians, either by suturing, by application of an antiseptic solution in the wound, or by simply dressing the wound before coming to the hospital. The remaining seven cases had larger wounds, most of them untreated. The time interval between the injury and admission to the hospital varied from one to 40 hours. Fourteen of these wounds healed early without serious infection and in six there was serious infection. Wound healing

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was not mentioned in eight cases. Osteomyelitis developed in five cases. Gas gangrene developed in two cases, one of which recovered without amputation and the other one died. One amputation was done for a deep popliteal slough; another because of the multiple fractures and extensive laceration; a third case because of two crushed fingers, and a fourth for gas gangrene. This last case survived amputation only a few hours, having originally been admitted 39 hours after the injury, with the wound having been sutured by the local doctor before coming to the hospital. There were two deaths, one previously mentioned from gas gangrene, and the other from shock following amputation for multiple fractures and lacerations. The results are not known in three cases.

TABLE III
NO DEBRIDEMENT
(32 cases)

Nature of Wounds	No. Cases
Puncture Wounds	17
Bullet Wounds	3
Sutured by L.M.L.	5
Larger Wounds	7
Not infected—	
early healing	14-43 percent
Serious infection—	
osteomyelitis	6-19 percent
Incomplete (for	
wound healing)	8
Gas Gangrene	2
Tetanus	0
Union	23-72 percent
Non-Union	2- 6 percent
Incomplete (for union)	3
Amputations	2
Deaths	2

SUMMARY

In 77 cases of compound fractures treated, the cases were divided into three groups. The method of treatment varied, depending upon the time interval following injury and upon the attending physician's judgment of the necessity of debridement in cases of small wounds or puncture wounds.

Group I: In the 30 cases that were treated with early debridement and closure of the wound, up to 12 hours after injury, the wounds healed early without serious infection in 70 percent of the cases. Serious infection and osteomyelitis developed in six percent of the cases. In five wounds that were left open, 80 percent healed early and 20 percent were seriously infected. Of the 35 patients treated by debridement under 12 hours after injury, regardless of whether the wound was closed or left open, there was 74 percent early wound healing and nine per-

cent serious infection, with osteomyelitis. Union occurred in 74 percent of the cases, with non-union in nine percent of the cases.

Group II: In ten cases that were treated by late debridement, six of the wounds were closed and four left open. In the six wounds that were closed, there was early healing in 33 percent of the cases and serious infection in 67 percent. In none of the four compound fractures in which the wounds were packed open did the wounds heal early, but there was serious infection with osteomyelitis in 50 percent of the cases. Union was obtained in 70 percent, and non-union in ten percent of the cases.

Group III: In the last group of 32 cases, 43 percent of the wounds healed early and in 19 percent there was serious infections. Union occurred in 72 percent and non-union in six percent of the cases.

Sulfanilamide was used in 13 of the total 77 cases treated. All cases in the past 18 months have been treated by application of the sulfonamide powders locally in the wound, but in no instance should sulfanilamide or sulfathiazole be substituted for a thorough surgical debridement and wound cleansing.

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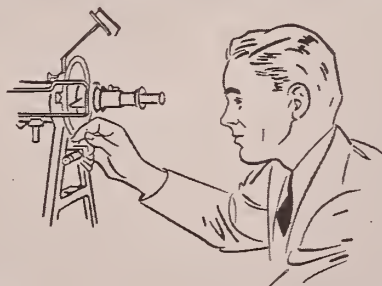
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EDITORIALS

PUBLIC WELFARE AID

A letter from the president of the State Medical Association concerning the interest of the State Association in helping the Department of Public Welfare clear up some of the questionable applicants for aid to the Dependent Children Program is very commendable. By this action they have formed an advisory medical committee serving as an appeal or reference agency from the various counties to examine and determine the physical standing of any parent claiming help under this fund. This board reviews the medical examination as submitted by the doctors, who have examined the applicants, and if there is question in their minds as to the thoroughness or accuracy of the facts set forth, they call them for another examination. It is upon this report that the final claim is approved or disallowed. It, therefore, is obligatory that each of us, in making out these examinations, be both accurate and fair so that the board may have adequate and unbiased facts and opinions upon which to arrive at their decision.—From the November issue of the Bulletin of the Garfield County Medical society.

THE VITAMIN CRAZE

The well developed vitamin deficiency syndrome are immediately obvious to all well informed physicians. The vitamins concerned in the production of these syndrome are A, B1, C, D, and K. Other vitamins have been discovered, but according to our present knowledge, it is doubtful if their deficiency causes obvious clinical pictures.

In addition to the demonstrable ill-effects of vitamin deficiencies, there must be many cases of occult or sub-clinical deficiency. Obviously it is impossible to diagnose the latter accurately. Their presence may be suspected in an individual who has been accustomed to an inadequate diet and who presents certain vague symptoms of physical and psychological inadequacy. The clinical and sub-clinical types may be found among the opulent as well as the poor. Many of the well-to-do would rather suffer from avitaminosis than run the risk of adiposis. All the poor would eat more if it were not for the "wolf at the door." On the other hand, both classes might achieve their purposes and escape vitamin deficiency if they knew more about food values, including vitamin content.

The practical application of adequate

knowledge of food, which is not beyond the grasp of the average individual, will not only prevent vitamin deficiency, but will cure all existing mild cases. In the treatment of the well developed deficiency syndrome, the physician should be ready to supplement intelligently adequate diet with needed vitamins given orally or parenterally as indicated.

The American people have gone vitamin mad. Across the bridge table Mary prescribes ABCD&G for Jane, and over their highballs George tells John what brand to buy. Above the confusion of the assembly line, Oumanski recommends to Fincklestein his own favorite kind as being better than that supplied by the employer for the preservation of health and prevention of colds. In case the family physician, called into the average home, mentions vitamins, he may be confronted with the family bottle exhibiting the producer's original label as proof of intelligent parental prescribing and purchasing power.

This gregarious wave of popularity has set the pharmaceutical pace on a pitch that rivals the most successful examples of our present defense production. The American people annually purchase more than a hundred million dollars worth of vitamins. Think of the time it takes to swallow such a stupendous load! An equal amount of money and time invested in the defense program would produce a sizeable batch of powerful bombers. To the credit of the American physicians, it should be noted that not more than 20 percent of the vitamins consumed are prescribed by them. The remaining 80 percent are sold over the counters of all sorts of stores.

To the shame of the American government, and to some extent the American physicians, the people are not adequately informed as to dietetic values and how to buy food intelligently and economically. Modern means of refrigeration, preservation and distribution makes it possible for everybody to have virtually every kind and quality of food every month in the year. The government authorities would do well to drop the unwarranted agitation about so-called inadequate medical service and set about to preserve health and sustain national vigor by providing knowledge and facilities necessary for adequate nutrition.—L. J.M.

DR. DICK LOWRY

Though death came prematurely to Dr. Dick Lowry, obviously, as shown by the following Editorial from the Daily Oklahoman, the lamented last curtain could not snuff out the light of his life. At St. Luke's, while his body rested beneath a heavy bank of beautiful flowers, his spirit was conditioning the hearts of a great throng gathered to join in a simple but stirring tribute to his genial personality, his professional integrity, and his own commendable way of life.

Though his daily services have come to an end, his career is yet in the course of evolution and its influence carries on. The whence and the whither are beyond our ken, but we know that Dr. Dick walked with us and talked and worked with us, and that the vibrant threads of his daily routine are running through the common fabric of our lives with intimate continuity, and to those who knew him best, he is more alive today than many who remain to mourn his passing. Every doctor should read this inspiring estimate of Dr. Lowry's service to his fellowman¹.

"Nothing but a life of continued service can draw into a funeral hall such a concourse of people as met to drop a tear of sorrow on the bier of Dr. Dick Lowry. Nothing but a genuine affection for the departed can evoke the sorrow that was manifest when the loved physician was laid away. The presence of

so many people and the sadness that clouded so many faces were proof enough that a great man, a very helpful man, and a much loved man, had gone to his reward.

"That crowd of people and that exhibition of sadness ought to have been seen by every cynic who has ever asked if life is really worth the living. Of course it is worth living. It always has been worth living to men like Dick Lowry. It always will be worth living to men who are willing to accept it as an opportunity to help the unfortunate, who are eager to find in every hour a chance to do something fine, who have the ability to see something good in every circumstance, and who refuse to believe that life is but a narrow vale between the lifeless peaks of two eternities. Because Dick Lowry laughed while he was living strong men wept when he died.

"We are accustomed to think that every vacant place in the ranks of the living can be filled quickly and adequately. But that is not true in all cases. No one has ever taken the place of the inimitable 'Abe Martin.' No one ever will take the place of the much loved Will Rogers. Will any one ever take the place of Dick Lowry here in Oklahoma City? Not unless some one steps forth who understands as Doctor Lowry understood that service to man is love for God."—L. J. M.

1. Who Loved His Fellows. The Daily Oklahoman, Dec. 6, 1941.

For the local Treatment of Acute Anterior Urethritis

(DUE TO NEISSERIA GONORRHEAE)

SILVER PICRATE*

Wyeth

Silver Picrate,

Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by *Neisseria gonorrhoeae*.¹ An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

A complete technique of treatment and literature will be sent upon request

*Silver Picrate is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," *Am. J. Syph., Gon. & Ven. Dis.*, 23, 201 (March), 1939.

JOHN WYETH & BROTHER, INCORPORATED, PHILADELPHIA

ASSOCIATION ACTIVITIES

Medical Advisory Committee To Welfare Aid Reports

The August Journal carried the announcement of the appointment of a Medical Advisory committee to the Public Welfare Department's Aid to Dependent Children Fund, by Mr. Jess Harper, Director, upon recommendation of Dr. Finis W. Ewing, President of the Association.

Since that time this committee, composed of Dr. A. R. Sugg, Ada; Dr. R. M. Shepard, Tulsa; Dr. Clinton Gallaher, Shawnee, and Dr. F. Redding Hood and Dr. C. R. Rountree, both of Oklahoma City, has met in five sessions for the purpose of accomplishing the objectives set out in the Economic committee's report adopted at the last session of the House of Delegates.

In addition to making recommendations concerning the procedure and methods to be followed in securing adequate medical information on applicants requesting assistance from the fund, the committee has considered 226 cases since its first meeting on August 3.

The following table gives the present standing of these 226 cases:

Received	226
Disposition, Total	173
Approved	119
Recommended for denial	50
Other (deceased, removed from state, etc.).....	4
Pending, Total	53
Recommended to M.A.C.	3
Awaiting special examination	28
Awaiting information from M.A.C.M.	22

The cooperation being given by members of the Association since the establishing of the Advisory committee has been exceedingly gratifying, and the effectiveness of this cooperation is directly responsible for the splendid record to date.

President Ewing Speaks At District 2 Meeting

Forty-one doctors, including three past presidents of the Association, attended the Annual Meeting of Councilor District number 2, held December 9, at the Silver Grill in Sayre.

The past presidents present were Dr. McLain Rogers and Dr. Ellis Lamb, both of Clinton, and Dr. H. K. Speed, Sayre.

Dr. Finis W. Ewing, president of the Association, Muskogee, appeared at the meeting as guest speaker. Also on the program was R. H. Graham, Executive Secretary, Oklahoma City.

Welcoming the doctors to Sayre was County Judge Lyle G. Brewer, who gave a short address. Among the doctors in attendance was Dr. G. P. Cherry, Mangum, who will mark his fifty-eighth year in the practice of medicine in April. Dr. V. C. Tisdal, Elk City, Councilor for the District, was able to introduce and call by name and town every doctor present.

Following the meeting, Dr. James G. Hughes, conducted the regular Postgraduate program in Pediatrics.

The district meeting was the largest ever held in the 2nd District and well typifies the splendid spirit of organized medicine in Western Oklahoma.

Dr. Edward N. Smith Opens Office

Dr. Edward N. Smith has announced the opening of his new office at 400 N. W. 10th Street, Oklahoma City.

Dr. Sam F. Seeley Addresses Secretaries Conference

With an address by Dr. Sam F. Seeley, Executive Officer of the Office of Procurement and Assignment, Washington, D. C., headlining the program, the Second Annual Secretaries Conference of the Association was held December 14, at the Skirvin hotel in Oklahoma City. Advance registration for the Conference indicated that about 100 doctors and guests would attend.

The Conference opened in the morning with Dr. Roy L. Smith, Tulsa, presiding. Dr. Lewis J. Moorman, Oklahoma City, and Dr. Finis W. Ewing, Muskogee, gave "A Report of the A. M. A. Secretaries Conference." Dr. Grady F. Mathews, Commissioner of Health, Oklahoma City, discussed "The Public Health Department and Civilian Defense;" Robert Hndson, London and Lancashire Indemnity company, Tulsa, spoke on "The Right of the Doctor in Court in Malpractice Cases;" and a discussion of the new income tax laws was held by the H. E. Cole company, Oklahoma City.

A discussion of medical laws by Mae Q. Williamson, Attorney-General, Oklahoma City, opened the afternoon session. Dr. Rnsh L. Wright, Poteau, presided over this meeting.

Major Louis H. Ritzhant, M.D., State Medical officer, continued the program with a discussion of the "Prehabilitation and Re-habilitation Program Under Selective Service;" and the Aid to Dependent Children Fund was discussed by W. R. Wallace, Chairman of the Public Welfare Commission and Dr. C. R. Rountree, Chairman of the Association's Medical Advisory committee to the Commission.

The afternoon session was concluded with a report from the Executive Office given by R. H. Graham, Executive Secretary, Oklahoma City.

Following a buffet supper, Doctor Seeley was presented. The subject of his address was "The Present Status of the Organization of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians."

Guests of the Conference included the secretaries, executive secretaries and presidents of neighboring state medical associations and the secretaries of their counties bordering Oklahoma; the officers and the Councilors of the Association and the presidents of the Association's county medical societies, and, from the Oklahoma State Dental Association, the Executive Council, the Military Affairs Committee, the officers of the state association, the secretaries and presidents of its component societies, and the delegates to the American Dental Association. Also represented was the Oklahoma Veterinary Medical Association.

Medical Preparedness officers who were guests at the meeting included the state Medical Preparedness committee, the state Advisory committee to the state Medical Preparedness committee, the Medical Preparedness chairmen of the councilor districts, and the chairmen of the Medical Preparedness committees of the county societies.

Each County medical society can doubtless anticipate a report of the Conference from its officers who were in attendance.

Dr. Garrison to Serve on Nutrition Council

Dr. George H. Garrison, Oklahoma City, will represent the Association on the Oklahoma State Nutrition Council.

Doctor Garrison's appointment as representative was announced December 2 by Dr. Finis W. Ewing, President, Muskogee.



One of Polyclinic's three modern operating rooms.

EFFICIENTLY EQUIPPED OPERATING ROOMS

Correct equipment complements the surgeon's skill at Polyclinic. One example of thoughtful planning is a modern sterilizing plant, accessible to all operating rooms. Another is a special cabinet for warming blankets. There is new and specialized equipment for the study and care of urological cases.

At Polyclinic, operating room service is maintained on a 24-hour basis with a staff of anaesthetists and specially trained graduate nurses on duty at all times.

POLYCLINIC HOSPITAL

THIRTEENTH and ROBINSON

OKLAHOMA CITY

MARVIN E. STOUT, M.D.

Owner

Annual Meeting to Celebrate Association's 50th Birthday

Members of the Association may anticipate the greatest medical meeting ever held in Oklahoma, when the Association celebrates its Fiftieth Anniversary with the 1942 Annual Session, April 22, 23 and 24, in the Coliseum in Tulsa.

It should be noted that, in order to accomodate the scientific program and the medical exhibitors, the Annual Session dates have been changed from April 29, 30 and May 1, to April 22, 23 and 24.

Because of the size and the occasion of the meeting, the Session will be held in the Coliseum rather than a hotel. Already, 26 exhibitors, including four new exhibitors, have reserved spaces for the meeting.

Plans are being made by the Scientific Works committee to send out application blanks to the county secretaries for the scientific exhibits. All doctors who wish to have such exhibits will be asked to fill out these application blanks and return them as soon as possible so that sufficient space may be available for the exhibits.

The Scientific Works committee is also making every effort to make the scientific program of the meeting a particularly outstanding one, as they realize that in all probability, in view of the recent events in the national emergency, it will not be possible for the doctors to take postgraduate work outside the state.

The secretaries of the scientific sections for the meeting, who are listed below, have indicated that they should like to have any doctor who desires to read a scientific paper in his particular section notify the secretary.

Secretaries and their respective sections are as follows:

General Surgery, Dr. Osear R. White, 1200 North Walker, Oklahoma City;
 Eye, Ear, Nose and Throat, Dr. Roy W. Dunlap, Medical Arts building, Tulsa;
 Dermatology and Radiology, Dr. M. O. Nelson, Medical Arts building, Tulsa;
 Urology and Syphilology, Dr. D. W. Branham, Medical Arts building, Oklahoma City;
 General Medicine, Dr. Philip M. Schreck, Medical Arts building, Tulsa;
 Neurology, Psychiatry and Endocrinology, Dr. Moorman Prosser, Norman;
 Pediatrics, Dr. Clark H. Hall, Medical Arts building, Oklahoma City;
 Public Health, Dr. John F. Hackler, State Health Department, Oklahoma City;
 Obstetrics and Gynecology, Dr. L. G. Neal, Pouca City.

Urology Award Offered

The American Urological Association offers an annual award "not to exceed \$500.00" for an essay (or essays) on the result of some specific clinical or laboratory research in Urology. The amount of the prize is based on the merits of the work presented, and if the Committee on Scientific Research deem none of the offerings worthy, no award will be made. Competitors shall be limited to residents in urology in recognized hospitals and to urologists who have been in such specific practice for not more than five years.

Essays shall be in the hands of the Secretary, Dr. Clyde L. Deming, 789 Howard Avenue, New Haven, Conn., on or before April 1, 1942.

Hospital Association Re-Elects Officers

Climaxing the annual convention of the Oklahoma State Hospital association, November 14, in Tulsa, was the re-election of officers and the selection of Enid as the 1942 meeting place.

Officers re-elected are Dr. L. E. Emanuel, Chickasha, president; Sister Superior Agness, Oklahoma City, vice-president; and Joe Bush, Oklahoma City, secretary-treasurer.

MEDICAL ECONOMICS COMMITTEE MEETS WITH F.S.A.

The Medical Economics committee of the Association, which includes Dr. Horace Reed, Oklahoma City; Dr. W. A. Howard, Chelsea; and Dr. McLain Rogers, Clinton, met with representatives of the Farm Security Administration, Dr. Charles M. Pearce and Frank A. Boutwell, December 7, in the office of the Association.

The purpose of the meeting was to discuss the program of the Administration in regard to the medical care of its clients. A survey by the Executive office through the County societies, has been completed recently, and the Medical Economics committee will at a future date submit a report of the survey to the Council for its consideration and approval.

It is hoped that the report will be the basis on which many of the County societies will be able to evaluate the program and ascertain whether or not they desire to participate in it.

State Insurance Fund Reports On Expenditures Again

The following resume of the State Insurance Fund's expenditures covering three separate periods has been received in the office of the Association, and should be of interest to the profession.

The periods covered by this report, which brings the report carried in the August Journal up to date as of November 1, are: the expenditures from April 15, 1940 to November 1, 1941; the expenditures from January 1, 1941 to November 1, 1941; and the expenditures from July 1, 1933 to November 1, 1941.

Particular attention again should be centered on the period from April 15, 1940 to November 1, 1941, the period in which the fund has been under the management of Mr. Mott Keys, Commissioner, and Mr. Keys is to be congratulated again on his operation of the fund.

Expenditures from April 15, 1940 to November 1, 1941

Medical and Hospitalization bills.....	\$138,327.87
Compensation and Attorney fees.....	385,625.84
Operating, Salaries and supplies.....	83,564.17

Total for 18½ months.....\$607,517.88

Expenditures from January 1, 1941 to November 1, 1941
 (10 months of 1941)

Medical and Hospitalization bills.....	\$ 43,807.51
Compensation and Attorney fees.....	133,275.99
Operating, Salaries and supplies.....	45,628.19

Total for 10 months of 1941.....\$222,711.69

Expenditures from July 1, 1933 to November 1, 1941
 (8 1/3 years)

Medical and Hospitalization bills.....	\$ 781,023.74
Compensation and Attorney fees.....	2,076,377.03
Operating, Salaries and supplies.....	429,701.26

Total for 100 months (8 1/3 years).....\$3,287,102.03

Average total monthly expenditure for 8 1/3 years\$32,871.02

Average medical monthly expenditure for 8 1/3 years 7,810.24

Average compensation monthly expenditure for 8 1/3 years..... 20,763.77

Average operating monthly expenditure for 8 1/3 years..... 4,297.01

Annual Crippled Children's Clinic Is Held in Alva

The tenth annual crippled children's clinic sponsored by the Alva Rotary club was held November 24, in Alva, with two Oklahoma City physicians, Dr. George H. Kimball and Dr. Earl D. McBride, as examining physicians.

Dr. O. E. Templin, Alva, committee chairman, was in charge of arrangements for the clinic. Following its session, Doctor Kimball and Doctor McBride were the guest speakers at a dinner meeting of the Woods-Alfalfa County Medical Society.

Report of Annual A. M. A. State Secretaries Meeting

The Oklahoma State Medical Association was represented at the Annual A. M. A. Conference of State Secretaries held in Chicago, November 14, by Dr. Lewis J. Moorman, Secretary, Dr. Finis W. Ewing, President, Dr. L. S. Willour, Editor, and the executive secretary, R. H. Graham.

The program of the Conference dealt mainly with subjects in the medical economics field and medical defense.

Friday evening, a dinner meeting for Editors of state medical Journals was held at the Palmer House to hear discussions on this particular activity of medical associations.

Medical Students' Classification

General McAfee, U. S. Army, spoke on the medical students' classification in relation to the army, the navy and selective service. At the present time, junior and senior students and first year interns are exempt from the draft, if they apply for a commission. First and second year students, if scholastically satisfactory, are being deferred by selective service, but this can be changed at any time as it is not written into the law but rather is a gentlemen's agreement. It was reported that in some medical schools, as high as 95 percent of the eligible students had applied for their commissions, while in others, the percentage was as low as five percent. It seemed to be the consensus of opinion that the enlistment reflected the attitude and advice of the faculty. At the University of Oklahoma School of Medicine, 68 of a total of 111 junior and senior students had on December 10 applied for their commissions. Fifty-four of these were army commissions, and 14 navy.

Selective Service

The Director of Selective Service, Brigadier General Lewis B. Hershey discussed the new changes which had been put into effect concerning selective service examinations. He pointed out that as rapidly as possible, duplication of examinations was being erased and that final physical examinations are being given as near the home of the draftee as possible. Local boards are now being asked to reject only those selectees who have definite physical deformities, and to send all borderline cases together with their findings to the army induction center for final determination of eligibility. Concerning borderline cases which have been rejected, it was explained that local boards would be asked to go back over some 200,000 to 300,000 draftees to find those who might be made fit for service by rehabilitation.

General Hershey complimented the profession on the voluntary free service it has given and stated that it was a service that could never have been bought.

Procurement and Assignment

Dr. Sam F. Seeley, Executive Officer of the Office of Procurement and Assignment, explained the work of this recently established agency.

Since Doctor Seeley appeared before the Annual Secretaries Conference of the Association, December 14, his remarks at the A. M. A. Conference will be deferred until the January issue of the Journal, when his discussion will be printed in full.

Medicine and Civilian Defense

The problems and aims of the Office of Civilian Defense were discussed by George Baehr, M.D., Chief Medical Officer of O.C.D. Doctor Baehr explained the aims of the O.C.D. as being the protection of lives, the protection of property, and the preservation of morale. In stressing the work of the medical division he pointed out that the plans were adaptable to all parts of the country and included three major classifications: (1) Emergency Medical Service; (2) development of Volunteer Nurses Aids, and (3) the training of the entire civilian population in First Aid.

The Federal Security Administration was represented by Watson Miller, Assistant Administrator, who informed the Conference on the part this agency was playing in

seeing that defense areas were being provided with sufficient medical and dental personnel. Mr. Miller stated that about 66 percent of the industrial plants are not properly equipped and staffed as far as their medical departments are concerned. It was the opinion of Mr. Miller that Labor and Medicine should as soon as possible work out some way for the worker to pay his medical bills and that perhaps in time to come, this method could be handled by pre-payment plans.

C. M. Peterson, M.D., Secretary of the A.M.A. Council on Industrial Health presented the work of the Council since its establishment some four years ago, and urged the state medical associations and county societies to take more vigorous action in this field. The Council now has two major objectives: (1) development of education in Industrial Health and (2) clarification of standards of medical care in industry.

Prepaid medical and hospital services were discussed by Peter Irving, Secretary of the New York Medical Society, and Stanley B. Weld, Editor of the Connecticut Medical Journal. Both stressed the many changing procedures which are being tried in this field, and urge the profession to be ever mindful of the principles involved.

Regional Director Appointed For Eighth Corps Area

Announcement has been received that W. B. Russ, M.D., San Antonio, Tex., has been appointed regional medical director for the Eighth Corps Area to assist the Office of Civilian Defense in organization work.

A regional director has been appointed for each region with headquarters in the same city in which the corps area headquarters are located. This step by the Office of Civilian Defense is indeed timely, as it places at the disposal of the Medical Profession men well trained in both military and civilian problems.

Hospital Protection Prepared

Dr. George Baehr, Chief Medical Officer of Civilian Defense, has announced the appointment of a subcommittee of the Advisory Board of the Medical Division, to prepare recommendations on protective procedures for hospitals in the event of belligerent action.

The committee held its first meeting, November 8, in New York City, when a study made of physical defense of hospitals by the American Hospital Association was discussed.

Eight State Doctors Called to Army

The following additional medical reserve corps officers of Oklahoma have been ordered to extended active duty by the Commanding General Eighth Corps Area, as reported in the Journal of the American Medical Association.

Atkins, Paul N., 1st Lieut., Muskogee, Station Hospital, Fort Sill.
 Cheatwood, William R., 1st Lieut., Ada, Station Hospital, Camp Wallace, Tex.
 Coates, Rugie Reginald, 1st Lieut., Oklahoma City, Station Hospital, Fort Sill.
 Johnson, Henry Myles, 1st Lieut., Oklahoma City, Station Hospital, Fort Sill.
 Parker, Edward Ray, 1st Lieut., Frederick, Station Hospital, Fort Sill.
 Prather, Frank William, 1st Lieut., Sulphur, 38th Infantry, Fort Sam Houston, Tex.
 Reynolds, John Haynes, 1st Lieut., Muskogee, Station Hospital, Fort Sill.
 Scott, George Warren, 1st Lieut., Tishomingo, Station Hospital, Fort Sill.

Reserve officers whose orders to active duty have been revoked are:

Clark, Ralph O., 1st Lieut., Oklahoma City.
 Farnum, Lorenzo M., Jr., 1st Lieut., Oklahoma City.
 Kerr, Walter C. H., 1st Lieut., Picher.
 Mayfield, Warren T., Capt., Norman.
 Two officers have been relieved from active duty. They are Dr. Marvin Elkins, 1st Lieut., Fort Sill, and Dr. B. A. Lawrence, Capt., Fort Sill.

HAVE YOU **THESE FACTS ON**

Recent U. S. government reports indicate a considerable increase in cigarette smoking. As physicians realize, this is a natural development during times of public tension.

This situation, and the advent of recent and very significant research, have greatly increased the interest of the profession in the subject of cigarette smoking.

Naturally, situations arise in which a physician may find it desirable to modify his patients' smoking hygiene. But in any case, the physician is concerned about the smoke itself, the principal carrier of physiologically reactive substances.

Scientific authorities in general agree that the constituent of cigarette smoke with the greatest physiologic significance is nicotine. Any reduction of this substance in a patient's smoking is considered desirable by most physicians.

When the modification of a patient's smoking is indicated, here are facts which should be of interest to you:

The makers of Camel cigarettes arranged for independent tests on 5 of the largest-selling brands of cigarettes. The rate of burning

CONSIDERED CIGARETTE SMOKING?

and the nicotine content of the smoke of Camels were compared to the averages of the other brands tested.

The results paralleled the findings of prominent medical—scientific authorities.* Here is the most important conclusion:

THE SLOWER-BURNING CIGARETTE PRODUCES LESS NICOTINE IN THE SMOKE

This research also suggests that by advising patients to smoke slower-burning Camels, it is possible to reduce the nicotine content of cigarette smoke *without sacrifice of smoking pleasure*. Thus, the patient's cooperation is assured.

A RECENT ARTICLE by a well-known physician in a leading national medical journal** presents new and important information on this subject, together with other data on the significance of the burning rate of cigarettes. There is a comprehensive bibliography. Let us send you this impressive article for your own inspection. Write to Camel Cigarettes, Medical Relations Division, 1 Pershing Square, New York City.

*J.A.M.A., Vol. 93, No. 15, p. 1110, Oct. 12, 1929

Bruckner, Die Biochemie des Tabaks, 1936

**The Military Surgeon, Vol. 89, No. 1, p. 7, July, 1941

College of Surgeons Announces Approved Hospitals

The University hospital, Oklahoma City, was one of 216 hospitals in the United States and Canada approved for graduate training in surgery by the American College of Surgeons at the College's recent Clinical Congress in Boston.

The list of hospitals so approved by the College was officially announced, November 3, at the opening session of the Congress, by Dr. Dallas B. Phemister, Chicago, chairman of the committee conducting the program in graduate training in surgery.

Thirty-seven Oklahoma hospitals received official recognition for the training of interns and for residencies and fellowships from the council on medical education and hospitals.

A list of these hospitals, including capacity, type, control and ownership, follows:

Ada—Valley View hospital, 60, general, directors, community.

Ardmore—Hardy sanitarium, 55, general, owner, private.

Bartlesville—Washington County Memorial hospital, 61, general, board of control, county.

Claremore—Claremore hospital, 98, general, department of interior, federal.

Clinton—Clinton Indian hospital, 35, general, department of interior, federal; Western Oklahoma Charity hospital, 135, general, board of public affairs, state; Western Oklahoma Tuberculosis sanatorium, 295, tuberculosis, board of public affairs, state.

Concho—Cheyenne and Arapaho hospital, 54, general, department of interior, federal.

Cushing—Masonic hospital, 36, general, trustees, community.

El Reno—Federal reformatory, 77, general, public health service, federal.

Enid—St. Mary's Enid Springs hospital, 87, general, sisters, church.

Fort Sill—Station hospital, 1,364, general, army, federal.

Lawton—Kiowa Indian hospital, 163, general, department of interior, federal.

McAlester—Albert Pike hospital, 56, general, individual, community.

Muskogee—Oklahoma Baptist hospital, 125, general, trustees, church; Veterans Administration hospital, 423, general, Veterans administration, federal.

Norman—Central Oklahoma State hospital, 1,800, mental, board of public affairs, state; Ellison infirmary, 40, general, regents, university.

Oklahoma City—Bone and Joint hospital and McBride clinic, 41 orthopedic, owners, private; Oklahoma City General hospital, 112, general, directors, private; St. Anthony's hospital, 400, general, sisters, church; University of Oklahoma: Crippled Children's hospital, 230, orthopedic, regents, state; State University hospital, 220, general, regents, state; Wesley hospital, 160, general, clinic, private.

Pawnee—Pawnee-Ponca hospital, 56, general, department of interior, federal.

Picher—American hospital, 43, general, owner, private.

Ponca City—Ponca City hospital, 62, general, sisters, church.

Shawnee—A. C. H. hospital, 30, general, owners, private; Shawnee Indian sanatorium, 150, tuberculosis, department of interior, federal; Shawnee Municipal hospital, 56, general, commissioners, city.

Sulphur—Soldiers Tubercular sanatorium, 136, tuberculosis, relief commission, state.

Supply—Western Oklahoma hospital, 1,500, mental, board of public affairs, state.

Tahlequah—William W. Hastings Indian hospital, 86, general, department of interior, federal.

Talihina—Eastern Oklahoma State Tuberculosis sanatorium, 370, tuberculosis, board of public affairs, state; Talihina sanatorium and hospital, 253, general-tuberculosis, department of interior, federal.

Tulsa—Hillcrest Memorial hospital, 225, general, directors, community; St. John's hospital, 256, general, sisters, church.

Many State Doctors Attend Southern Medical Meeting

With the registration figure for Oklahoma reaching 98, the Oklahoma medical profession was well represented at the Thirty-Fifth Annual Session of the Southern Medical Association, November 10, 11, 12, and 13, in St. Louis, Mo.

Five Oklahoma physicians were among those with scientific exhibits at the Session. They were Dr. Curt Von Wedel, Oklahoma City, whose exhibit was on Plastic Surgery, and Dr. Henry H. Turner, Dr. W. Floyd Keller and Dr. Wayne Hull, all of Oklahoma City, and Dr. Rex Boland of Abilene, Tex., whose exhibit on Endocrinology was entitled "Clinical Use of Testosterone Propionate."

Dr. Hugh Jeter, Oklahoma City, a guest speaker at the meeting, described the diagnosis of hidden cancer by studying tumor fragments from the blood and other fluids of the chest and abdomen.

Oklahoma doctors who attended the meeting are listed below according to the date of their registration:

November 11—Dr. Robert M. Anderson and Dr. A. C. McFarling, both of Shawnee; Dr. R. W. Anderson, Guthrie; Dr. Carl H. Bailey, Stroud; Dr. A. H. Bell, Dr. Wm. L. Bonham, Dr. F. Maxey Cooper, Dr. John L. Glomset, Dr. Wayne M. Hnll, Dr. Joseph W. Kelso, Dr. Joseph F. Messenbaugh, Dr. J. A. Morrow, Dr. R. L. Murdoch, Dr. L. C. McHenry, Dr. Robert U. Patterson, Dr. Henry H. Turner, Dr. Curt Von Wedel and Dr. W. K. West, all of Oklahoma City; Dr. J. Hoyle Carlock, Ardmore; Dr. W. H. Cook and Dr. D. S. Downey, both of Chickasha; Dr. John Robert Cotteral, Henryetta; Dr. S. T. Coughlin, Enid; Dr. Kieffer Davis, Nowata; Dr. W. F. Dean, Ada.

And Dr. E. Rankin Denny, Dr. Charles H. Haralson, Dr. Thomas J. Hardman, Dr. K. C. Reese, Dr. R. M. Shephard, Dr. Winfred A. Showman, Dr. A. Ray Wiley, and Dr. E. G. Wolff, all of Tulsa; Dr. A. N. Earnest, Dr. Finis W. Ewing, Dr. J. T. McInnis, Dr. Shade D. Neely, and Dr. Charles E. White, all of Muskogee; Dr. James K. Gray, Tahlequah; Dr. James I. Hallingsworth, Waurika; Dr. Ellis Lamb, Clinton; Dr. E. C. Lindley, Duncan; Dr. C. W. Moore, Madill; Dr. G. C. Moore, Ponca City; Dr. Malcolm E. Phelps, El Reno; Dr. J. Frank Renegar, Tuttle; Dr. E. T. Robinson, Cleveland; Dr. W. Jackson Sayles, Miami; Dr. A. J. Snelson, Checotah; Dr. O. J. S. Somerville and Dr. Lee Bailey Word, both of Bartlesville; Dr. William L. Taylor, Holdenville, and Dr. Wm. Chester Vernon, Okmulgee.

November 12—Dr. Robert H. Adams, Dr. William M. Aldredge, Dr. Ray M. Balyeat, Dr. H. W. Butler, Dr. Anson L. Clark, Dr. Paul C. Colonna, Dr. Tullos O. Coston, Dr. W. F. Keller, Dr. John H. Lamb, Dr. Wendell Long, Dr. George S. Mechling, Dr. Ellis Moore, Dr. Ben H. Nicholson, Dr. David D. Paulus, Dr. Carroll M. Pounders and Dr. W. W. Rucks, all of Oklahoma City; Dr. H. M. Cohenour, Dr. Hugh C. Graham, Dr. I. H. Nelson, Dr. George R. Osborn, Dr. Raymond G. Sherwood, Dr. Frank A. Stuart and Dr. Arnold H. Ungerman, all of Tulsa; Dr. G. G. Downing, Lawton; Dr. J. S. Fulton, Atoka; Dr. J. H. Howe, Ponca City; Dr. Wm. R. Lytle, Seminole; Dr. H. F. Vandever, Enid; Dr. E. E. Waggoner, Tonkawa; and Dr. L. S. Willour, McAlester.

November 13—Dr. Charles P. Bondurant, Dr. George H. Garrison, Dr. Hugh G. Jeter, Dr. Everett S. Lain, Dr. Ralph E. Myers, Dr. Donald B. McMullen and Dr. D. H. O'Donoghue, all of Oklahoma City; Dr. Matt A. Connell, Picher; Dr. E. Halsell Fite, Muskogee; Dr. R. Berry Gibson, Ponca City; Dr. Walter S. Larrabee, Dr. Morris B. Lhevine, Dr. Ian MacKenzie, Dr. H. D. Murdock, and Dr. Fred E. Woodson, all of Tulsa.

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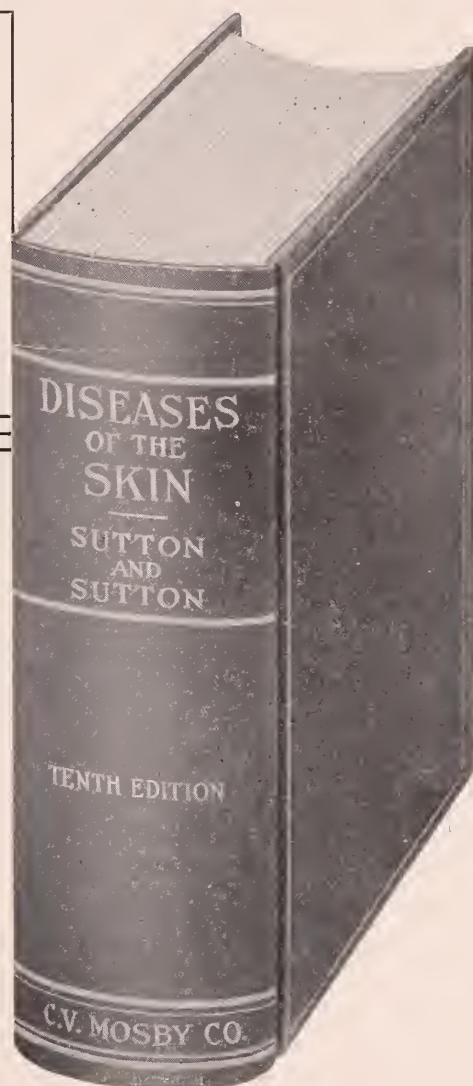
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Address

NEWS FROM THE COUNTY SOCIETIES

The Carter County Medical society met November 3 in Ardmore, with about nine members in attendance to hear the program presented by two guest speakers and one member.

The guests were Dr. J. Milton Serwer and R. H. Graham, both of Oklahoma City. Doctor Serwer's topic was "Endocrine Treatment of Abortion," an illustrated lecture, and Mr. Graham's was "The New Re-registration Law and Its Benefits to Both the Medical Profession and the Laity."

The other speaker on the program was Dr. J. Hobson Veazey, Ardmore, who discussed "Erythroblastosis Foetalis and a Report of a Case."

Dr. Ray M. Balyeat, Oklahoma City, was guest speaker for the meeting of the Garvin County Medical society, November 19, in Pauls Valley.

Doctor Balyeat's subject was "Diagnosis and Treatment of Common Allergic Manifestations Encountered by the General Practitioner." Other guests at the meeting were Dr. J. A. Walker and Dr. Clinton Gallaher, both of Shawnee.

Guest speakers at the meeting, November 24, of the Woods-Alfalfa County Medical society in Alva were Dr. George H. Kimball and Dr. Earl D. McBride, both of Oklahoma City.

Doctor Kimball discussed "Skin Grafting and Elimination of Birthmarks," and Doctor McBride, "Birth Injuries, Causes and Treatment." Doctor Kimball and Doctor McBride had conducted a crippled children's clinic in Alva that day.

The Oklahoma County Medical society is joining the Town club in presenting a series of eight health lectures in the program of home defense sponsored by the two organizations.

The first of the lectures was given, November 5, at the Y. W. C. A. auditorium in Oklahoma City, by Dr. Walker Morledge. His topic was "Health Problems Today and Tomorrow."

Following his talk, discussion was held on communicable diseases in war time, and Doctor Morledge described a new influenza vaccine.

The lectures are open to the public.

Dr. V. H. Musiek, Oklahoma City, discussed ulcers and cancers, and Dr. R. Q. Goodwin, Oklahoma City, presented a paper on pneumonia at the monthly meeting of the Okmulgee-Okfuskee county society, November 10, in Okemah.

The two talks followed a dinner and business meeting of the society.

Dr. John Carson, Shawnee, was elected president of the Pottawatomie County Medical society at a meeting November 15, in Shawnee. Doctor Carson's term of office will begin in January, 1942.

Other 1942 officers elected are Dr. Paul Gallaher, Shawnee, vice-president; Dr. Clinton Gallaher, Shawnee, secretary-treasurer; Dr. A. C. McFarling, Shawnee, censor (term expires December, 1944); Dr. J. M. Byrum, trustee; Dr. M. W. Gallaher, Shawnee, delegate for 1942-43; and R. M. Anderson, Shawnee, alternate delegate.

The other delegate and alternate delegate are Dr. G. S. Baxter and Dr. E. E. Rice, both of Shawnee.

The scientific program at the meeting was centered around a talk, "'B' Deficiencies as Related to Nervous and Mental Disorders," given by Dr. Paul Gallaher.

Besides its regular monthly business and scientific sessions, the Pottawatomie County Medical society members carry on a weekly radio program in Shawnee as a project.

These programs consist of short talks on medical topics given by members of the society. The subject of the November 16 broadcast was "Popular Misconceptions About Pregnancy."

"Injuries of the Urinary Tract," was the subject of the talk given by Dr. D. W. Branham, Oklahoma City, guest speaker at the meeting of the Cleveland county medical society, November 13, in Norman.

The women's auxiliary to the society held its meeting at the same time, and preceding the two meetings was a dessert course served for members of the two groups.

The transfer of Dr. Thomas Wells from the Shelby County Medical Society in Tennessee, was presented to the Board of Censors of the Washington-Nowata County Medical society at a meeting, November 12, in Bartlesville. The transfer was accepted, and Doctor Wells was welcomed as a new member of the Washington-Nowata group.

Following the business meeting, Dr. H. A. Brocksmith, Tulsa, gave a short talk on "Research on the Duodenal Secretions," and showed a film on Rectal Diseases.

Dr. Louis H. Ritzhaupt, Guthrie, discussed the problems of the induction board and outlined the present status of requirements for classification of the inductees in an informal talk before the November meeting of the Garfield county society in Enid.

About 35 members were present. Dr. J. Wendell Mercer, Enid, read a paper on Rheumatoid Arthritis, bringing medication for it up to date.

The society's December meeting will be held December 18, in the Youngblood hotel, Enid, with Dr. Francis Michael Duffy as speaker.

California Offers Opportunities For Practice

The California State Personnel Board has announced that opportunities for practice are available in many California institutions.

Because of a recent change in California law allowing accredited physicians and surgeons to practice in state mental institutions and homes for the feeble-minded for one year without first having a State of California license, the opportunities are attractive to all physicians desiring such employment.

Any doctor who is interested in employment in California should correspond with the California State Personnel Board, 1015 L Street, Sacramento.

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• OBITUARIES •

Dr. C. K. Logan 1895-1941

Dr. C. K. Logan, Hominy, was born November 6, 1895, at Vernon, Tex. After attending highschool and junior college at the Oklahoma Northeastern State Teachers college at Tahlequah, he attended the University of Oklahoma where he received the degrees of Bachelor of Arts, Bachelor of Science, and Doctor of Medicine.

He took postgraduate work in St. Louis, Mo., New Orleans, La., Chicago, Ill., Toronto, Canada, and at the Mayo clinic in Rochester, Minn.

For the 20 years before his death, Doctor Logan practiced medicine in Osage county, and became an active member of the civic and community life of Hominy.

He died November 14, 1941, in his home at Hominy. Surviving him are his wife, three children, Ruth Frances Logan, Mrs. Martha Logan and C. K. Logan, Jr., all of Hominy; his mother, Mrs. Mary Annie Logan, Norman, and two brothers, Dr. Leonard Logan, Norman, and Dave Logan, Okmulgee.

Resolution

WHEREAS, Clifford K. Logan was, for twenty years, an active and respected member of the Osage County Medical association, and,

WHEREAS, during this period of time he was an active physician and surgeon in Hominy, Okla., and an active leader in the civic and community activities of his town, giving freely of his time and money to promote the medical profession and to promote the welfare of his fellow-man, and

WHEREAS, the said Clifford K. Logan has departed this life and the Osage County Medical association desires to commemorate his passing by an appropriate resolution.

NOW, THEREFORE, BE IT RESOLVED by the Osage County Medical association, in regular meeting assembled on this eighth day of November, 1941, that the passing of the said Clifford K. Logan is a distinct loss to the Osage County Medical association and to the community in which he lived.

BE IT FURTHER RESOLVED that the Osage County Medical association takes this method of expressing to the medical profession at large and to family of the said Clifford K. Logan, its deep regret at the passing of one of its leaders, and acknowledges the loss of a faithful public servant.

BE IT FURTHER RESOLVED that a copy of this resolution be spread on the permanent records of the Osage County Medical association and that a copy of this resolution be, by the Secretary, presented to the family of Clifford K. Logan.

R. O. Smith, M.D.
Roscoe Walker, M.D.
George K. Hemphill, M.D.
Committee on Resolutions.

Dr. J. A. Rutledge 1889-1941

Pontotoc county and the Association lost a member of long standing and prominence in the death, November 2, of Dr. James Allen Rutledge of Ada. Doctor Rutledge died from injuries received in an automobile accident the day before his death.

Doctor Rutledge had practiced medicine in Ada for 16 years, gaining prominence in local medical circles. Besides being active in the state and county medical associations, he was named the first chairman of the medical staff of Valley View hospital when it was opened in 1938.

He was born December 5, 1889, in Melissa, Tex., and graduated in 1911 from the University of Louisville medical school. Following a year of internship in the Louisville city hospital, he was licensed to practice medicine in Texas, in 1911. In 1913, he received his license to practice in Oklahoma.

He served with the A. E. F. as chief of surgical staff of Evacuation Hospital 14 during the World War, and returned to practice in first Woodward, Okla. then Denison, Tex., before he finally settled in Ada.

His survivors include his wife, a son, Ben Allen Rutledge, a student in the University of Oklahoma School of Medicine; a daughter, Mrs. Jane Dandridge, who is taking training in the medical school as a technician; and three brothers, Ben Rutledge, Ada, and Melton Rutledge and Charles Rutledge, both of Denison, Tex.

Dr. Charles J. Forney 1870-1941

Dr. Charles J. Forney, a pioneer in state and Woodward county medical life, died October 24, in the Shattuck hospital.

Doctor Forney had resided in Woodward since 1908. Born April 21, 1870, at Clarinda, Iowa, he received his early education in Winfield, Kan., and in 1901, he was graduated from the Keokuk Medical School.

He was an active member in the Woodward County Medical society and the Oklahoma State Medical association, and for a number of years, he served as County Health officer in Woodward. He was a member of the Methodist Episcopal church. Owner of one of the finest dairy farms in Woodward county, he was on the National Honor Roll of the National Dairy association.

Doctor Forney is survived by his wife, Mary Pierson Forney, Woodward; three daughters, Mrs. J. G. Yonng, Woodward; Mrs. Edwin J. Reid, Fort Lyon, Colo., and Mrs. Louis E. Webb, Woodward; two sisters, Mrs. George Asthoff, Boulder, Colo., and Mrs. Ray Millard, Lyons, Kan.; and four brothers, F. S. Forney, Sterling, Kan.; R. B. Forney, Wichita, Kan., and C. N. Forney and Dr. L. O. Forney, both of Hutchinson, Kan.

Resolution

WHEREAS, Charles J. Forney was, for more than a decade, an active and respected member of the Woodward County Medical association, and

WHEREAS, during such period of time he was active as a physician and surgeon in Woodward, Oklahoma, and during such period of time, was a leader in the medical profession and was liberal with both time and money in the promotion of the medical profession in this community and in the alleviation of human pain and suffering, and

WHEREAS, the said Charles J. Forney has departed this life and the Woodward County Medical association desires to commemorate his passing by an appropriate Resolution.

NOW, THEREFORE, BE IT RESOLVED by the Woodward County Medical association, in regular meeting duly assembled on this 13th day of November, 1941, that the passing of the said Charles J. Forney is a distinct loss to the Woodward County Medical association and to the community in which he resided.

BE IT FURTHER RESOLVED that the Woodward County Medical association takes this method of expressing to the medical profession at large and to the family of the said Charles J. Forney, its deep regret at the passing of one of its leaders, and acknowledges the loss of a faithful public servant.

BE IT FURTHER RESOLVED that a copy of this Resolution be spread upon the permanent records of the Woodward County Medical association and that a copy of this Resolution be, by the Secretary, presented to the members of the family of Charles J. Forney.

Attest:
C. W. Tedrowe, Secretary.

Joe L. Duer, President.

Dr. Thomas M. Boyd
1895-1941

Dr. Thomas M. Boyd, Norman, one of the Association's honorary members and a well-known World war veteran and American Legion member, died October 29, in his home after an extended illness.

A resident of Norman for the past 33 years, Doctor Boyd attended Norman highschool and the University of Oklahoma there, and was graduated from the Oklahoma School of Medicine. He was connected with the Central State Hospital in Norman from 1918 to 1933.

He is survived by his wife, two sons, Thomas M. Boyd, Jr., and Dick Boyd; a daughter, Mary Ellen Boyd; two brothers, Key Boyd and Jim Boyd, and five sisters, Mrs. W. O. Crownover, Mrs. Dora George, Mrs. Pearl Durkee, Mrs. L. A. Swinney and Mrs. George Hodom, all of Norman.

Auxiliary News

The Pittsburg County auxiliary met at the Hotel Crutcher on November 4, with Mrs. L. S. Willour, acting as presiding officer, due to Mrs. Pemberton's absence because of illness. Hostesses for this meeting were Mrs. E. H. Shuller and Mrs. A. R. Stough. There were 14 members and one guest present. The discussion consisted of means of raising money for the Cod Liver Oil Fund and securing Hygeia subscriptions. It was voted to observe Book Week by giving books on medical subjects to the Public Library. This group also voted to furnish food for a Thanksgiving Dinner to be served to a Rural Negro School (25 pupils). The Pittsburg auxiliary members sew for the Red Cross, and two of the members are teaching a Red Cross Home Nursing Class.

On Tuesday, November 4, the Tulsa County auxiliary met at the home of Mrs. J. W. Childs, headed by Mrs. T. B. Coulter, president. There were 44 present at this meeting. The speakers at this meeting were Dr. M. D. Spottswood, Dr. Fred Woodson and Dr. Margaret Hudson. The subject for discussion was "Medical Highlights."

Members of the Oklahoma County Medical auxiliary planned the following events for the entertainment of wives of doctors attending the Eleventh Annual Autumn Clinical Conference of the Oklahoma City Clinical Society, under the direction of Mrs. Gregory E. Stanbro: On Monday, October 27, a dinner was given at the Oklahoma Club. On Tuesday, October 28, luncheon was served in the Venetian Room of the Skirvin Hotel, followed by a style show with fashions and models provided by the Kerr Dry Goods company. Mrs. Neil W. Woodward, president of the auxiliary, presided. A Thanksgiving shower was held at the November 19 meeting, and the baskets given at the shower will be distributed to needy families.

Followed by a luncheon with Mrs. W. L. Shippey as hostess, the November meeting of the LeFlore county medical auxiliary was held November 4, in Poteau.

Members answered the roll call with short articles from "Hygeia," and Mrs. Shippey read a paper from the "Volunteer," which was written by Grace Hendrick Eustis about her investigation of the arrival and distribution of articles sent by the American Red Cross to Europe.

**Dr. R. L. Fisher Presents Diplomas
To Flight Surgeon Assistants**

Dr. Roy L. Fisher, Captain in the Medical Corps, Randolph Field, Tex., made the presentation of diplomas at the graduating exercises held at the School of Aviation Medicine, Randolph Field, October 15, for a class of flight surgeon assistants.

Doctor Fisher, a member of the Association, was formerly of Frederick, Okla.

Group Hospital Service News

Socialized Medicine

"Socialized Medicine" has been a much discussed subject in recent years. Seldom is the term defined, but it is rightly taken to mean a regimentation of hospitals and doctors and of all employed persons in the lower income brackets.

The regimentation which some day is inevitable under the but yesterday proposed laws for State Medicine or under any form of compulsory health insurance pointing to a totalitarian form of government, is still the goal of many formidable advocates. With the need for a health budget program clearly demonstrated and with the public opinion generally in favor of some form of health insurance, we cannot condemn government policies unless we have an efficient and an effective alternative which is actually and satisfactorily operating on a large scale. If compulsory health insurance ever comes, both the employer and the employee will be heavily taxed. Regardless of who pays the major portion of the tax, those business men and industrialists who fail to give full support to voluntary plans will be largely responsible for the institution of a compulsory Federal or State plan based on a system of taxation.

Picture a non-profit, community-sponsored organization, secured by the voluntary hospitals, endorsed by the leaders of the community, operating with a liberality and flexibility which can never be matched by State or commercial organizations, and providing adequate protection from the heartache and financial load occasioned by hospital bills. Such an organization now exists in The Blue Cross Plan. The American concept of life has in the past always been one of independence and self-determination. It was in keeping with that concept that voluntary non-profit hospital service plans were organized to provide a way to budget for unexpected sickness costs. The wholehearted cooperation of doctors and continued sound management by the public-spirited business men already associated with these plans is needed to make further expansion in this field a successful reality.

Do You Know

1. That every 70 seconds a member of The Blue Cross Plan in the United States is admitted to one of the nation's hospitals?
2. That the average stay of a patient in the hospital is 12½ days?
3. That one person in every 12.8 became a hospital patient in 1940?
4. That the average person from the age of 25 to 64 is disabled 9.9 days during every year?
5. That for every death reported, there are 16 cases of illness, disabling for seven days or longer?
6. That 6,000,000 persons, or 4.5 out of every 100, are disabled every day during the winter months?
7. That in 1940, over 4,700,000 persons were disabled from accidental injuries in the home?
8. That in 1940, an accidental injury struck every seventh home?
9. That 600,000 persons have pneumonia every year in the United States?
10. That there are over 7,500,000 subscribers to the 67 approved Blue Cross Plans in the United States and Canada?
11. That three-fourths of American workmen make less than \$150.00 per month—the cost of the average hospital bill?
12. That five cents per day will provide hospital care for the member, wife and all dependent children in The Blue Cross Plan?
13. That The Blue Cross Plan is a good investment for you?

BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

“BODY MECHANICS IN HEALTH AND DISEASE.”

Joel E. Goldthwait, M.D., F.A.C.S., L.L.D., Massachusetts General Hospital; Lloyd T. Brown, M.D., F.A.C.S.; Loring T. Swain, M.D.; John G. Kuhns, M.D., F.A.C.S., Harvard Medical School, and William J. Kerr, M.D., F.A.C.P., University of California Medical School. Third Edition, completely revised and reset. 121 figs., 316 pp. J. B. Lippincott Co., Philadelphia, 1941.

This book, now in its third edition, is not intended “to describe or discuss special diseases, but to present anatomic and physiologic features of importance in the preservation of health and the treatment of chronic disease.” With their braces, casts and corsets, their manipulations, exercises and postural corrections the authors claim remarkable improvement, amounting to cure, in a wide range of chronic affections from arthritis to varicose veins, from multiple sclerosis to diabetes. Their incredible account of the cure of diabetes attended by gangrene of the foot is a typical passage (p. 134).

The patient, a woman aged 70 years, has been advised to have her leg amputated for diabetic gangrene. The high sugar content of her urine had been controlled by insulin, and the patient had been kept in bed with two or more pillows under her head. When she consulted the authors, “amputation was advised against, and treatment for faulty body mechanics was begun at once. The patient was kept in bed, all pillows were taken away in order to raise the ribs, and thus not only raise the diaphragm but make it function more nearly normal. In her usual position in bed, there had been marked restriction of the action of the diaphragm as well as of all organs in the upper abdominal cavity. Exercises to increase the action of the diaphragm were begun and hot fomentations were applied to the back with hot mildly antiseptic dressings to the foot.” Insulin was at first stopped, then used again; at the end of ten days it was discontinued, the sugar in the urine never amounting to more than a trace. After six weeks’ treatment the patient left the hospital to carry on at home, and her leg was saved. Authors’ comment: “In this case it is probable, in the light of the patient’s age and the severity of this condition, that the pancreas had received some permanent damage from the long-continued faulty mechanics, but its amount cannot have been very great or incompatible with reasonable health. The case was handled from the point of view of correcting the faulty body mechanics. . . . Apparently Nature is ready to repair damages if a chance is given.”

The above case and comment are quoted at some length as exemplifying the book’s peculiar level and tempo. Equally astonishing reliefs are claimed for cited cases of multiple sclerosis and many other chronic diseases of known degenerative character. The authors seem little concerned with clinical pathology and differential diagnosis. These considerations, which we usually regard as of first importance, are somehow covered by the endlessly repeated phrase “faulty body mechanics.” On the other hand, anatomy and Nature are mentioned often with profound reverence. The ever capitalized word “Nature,” as here employed, has undefined naturopathic implications, which place it beyond the scope of the present review. But the anatomy of the authors requires some attention.

For example, their figure 24 must embarrass any practicing anatomist who thinks he is familiar with the texts and terms of his subject. This figure is attributed to “Spalteholz Anatomy,” and according to its legend depicts the suspensory ligament of the diaphragm. The figure here reproduced bears no resemblance in artistic

point to the elegant and precisely labelled figures of “A Hand Atlas of Human Anatomy” by Spalteholz. Nor does a careful search of this atlas reveal anything remotely approaching the aforesaid figure 24. Even more embarrassing is the term “suspensory ligament of the diaphragm,” which is alleged to attach to the cervical vertebrae and spines. No such ligament is figured or even mentioned in Spalteholz or in any other treatise on human anatomy known to us.

Many other items of anatomic lore make their first appearance in this book (unless perchance Galen or some of the medieval anatomists may have established priority). Thus we are told that the phrenic nerve arises from the fifth and sixth cervical roots. To think that through the years we, and those before us, have taught and demonstrated on innumerable cadavers the phrenic nerve arising mainly from C4 with variable small contributions from C3 and C5. Also we learn for the first time that the phrenic is the sympathetic supply to the diaphragm. As to the parasympathetic we are told that its arrangement is somewhat similar to that of the sympathetic, but in the cervical and sacral regions. No mention whatever is made of the cranial nerves that convey parasympathetic, or what we call cranial autonomic, fibers. So much to illustrate the bizarre anatomy of this book.

At any rate we would expect to obtain much and precise information on “faulty body mechanics.” And so we do, in a most general way, if repetition is what counts. Body sag, low diaphragm, very sloping ribs, visceral congestion resulting from ptosis are, indeed, the constantly recurring theme of the book. Also something is said of faulty spinal posture with pressure on nerve roots—mal-adjusted vertebrae “impinging on nerves,” with results at once disastrous and correctable. However new and original the rest of the book may be, this business of impinging on nerves comes perilously close to infringing on the eminent domains of Davenport and Kirksville, where, if anywhere, the book should find a ready market.

There is a profusion of photographs, silhouettes and line-drawings of nudes and seminudes showing (A) bad and (B) good body mechanics: (A) before treatment, a figure with head forward, chin down, shoulders drooping, chest flat and abdomen protruded; (B) after treatment, the same figure with head erect, chin up, shoulders drawn back, thorax expanded and abdomen contracted. Graphic personal testimony of this kind is not to be refuted by mere argument, however seriously it may be questioned. But as the anatomic and physiologic details of body mechanics in health and disease one is constrained to say, in the famous lines of Ethel Barrymore, “That’s all there is. There isn’t any more.”—C. F. De Garis, Professor of Anatomy, University of Oklahoma School of Medicine.

“ESSENTIALS OF GENERAL SURGERY.” Wallace P. Ritchie, M.D., Clinical Assistant Prof. Department of Surgery, Univ. of Minnesota Medical School, Minneapolis, Minn. St. Louis: The C. V. Mosby Company, 1941. \$8.50.

In the preface, warning the student of surgery that this book will not help “just to pass an examination,” Dr. Ritchie continues to express the hope that it will give the beginning student some basic outline of the important points he must master. The text therefore gives an outline of study of surgical diseases without mentioning the details of operative surgery.

This single volume shows in its most inclusive text the result of planning for brevity without slighting

important facts. One wonders how so much information can be placed before one in such a concise manner. No one subject can be studied in this book without obtaining possibly new and always important facts in regard to it.

Dr. Ritchie's book begins with a history of surgery and then follows with a consideration of such fundamentals as Anaesthesia, Surgical Technique, Asepsis and Antisepsis, Wounds and Inflammations. The various surgical diseases outlined under anatomical headings are then discussed, including therapeutic procedures best suited to their treatment. Orthopedic surgery, fractures and dislocations are included.

Some of the chapters have been written by other members of the Staff of the University of Minnesota Medical School including a stimulating Foreword by Dr. Owen H. Wagensteen. The author points out that "in general it reflects the attitude and practices of the Surgical Department."

Although written primarily for the undergraduate student, surgeons in general may also obtain valuable and helpful information in its study.—L. J. Starry.

"SHOCK TREATMENT IN PSYCHIATRY." A Manual by Lucie Jessner, M.D., Ph.D., Resident Psychiatrist, Balpathe, Georgetown, Mass.; Graduate Assistant in Psychiatry, Massachusetts General Hospital; Assistant in Psychiatry, Beth Israel Hospital, Boston; and V. Gerard Ryan, M.D., Associate Psychiatrist, Elmerest Manor, Portland, Conn.; Assistant in Psychiatry, Harvard Medical School. Introduction by Harry C. Solomon, M.D., Clinical Professor of Psychiatry, Harvard Medical School; Chief of Therapeutic Research, Boston Psychopathic Hospital. Grune and Stratton, Inc., New York City, 1941. Cloth pp. 123.

This little volume is most timely. It gives all the essentials for the three methods of shock treatment—insulin, metrazol and electricity. For the psychiatrist or anyone who cares to administer any one of these treatments, all details of preparation of the patient, the administration of the selected method and the immediate and late reactions, are portrayed in clearly understandable language. For the general practitioner who might be called upon from time to time to discuss shock treatment with anxious families, it is most informative. The authors' conservatism is to be admired. They frankly state that the shock treatments do not always produce desirable results. On the other hand, they believe such good results as have been achieved justify a further use and study of the shock methods. An excellent bibliography of more than 300 titles is appended, and this represents only the material upon which they have based their little work. For those who desire to keep abreast of therapeutic progress in the field of psychiatry, this little volume will be very desirable.—Ned R. Smith.

Ophthalmology-Otolaryngology Group Elects Officers

Dr. James A. Babbitt, emeritus professor of clinical otolaryngology at the University of Pennsylvania School of Medicine, and associate professor of otolaryngology in the university's graduate school of medicine, Philadelphia, was named president-elect of the American Academy of Ophthalmology and Otolaryngology at its annual meeting, October 22, in Chicago.

Doctor Babbitt will take office January 1, 1943. The present president-elect, Dr. Ralph I. Lloyd, Brooklyn, will assume office January 1, 1942.

Vice presidents elected at the meeting include Dr. Walter Theobald, Chicago; Dr. Forrest J. Pinkerton, Honolulu, Hawaii; and Dr. Francis E. LeJeune, New Orleans. Other new officers are Dr. Secord H. Large, Cleveland, comptroller; and Dr. William P. Wherry, Omaha, Neb., executive secretary-treasurer.

Don't be discouraged—the fellow that's always kicking you in the pants will never get ahead of you.—Bulletin, Garfield County Medical society.

University of Oklahoma School of Medicine

Dr. Homer F. Marsh was appointed Assistant Professor of Bacteriology to fill the vacancy created by Dr. Francis C. Lawler. Dr. Marsh had his training at Indiana State Teachers College, Purdue University, and Ohio State University. He was instructor in Bacteriology at Ohio State University before coming to the University of Oklahoma School of Medicine.

Dr. Lewis L. Reese, Medical Director and Assistant Superintendent of the University and Crippled Children's Hospitals, and lecturer in Medicine on the faculty of the School of Medicine recently attended the annual meeting of the American Hospital Association in Atlantic City, N. J.

Two murals have been completed on the walls of the auditorium of the School of the Crippled Children's Hospital by Miss Irma June Hedgecock, an N. Y. A. student in Oklahoma City University. One mural depicts the Run of '89; the other, Grimm's Fairy Tales. Miss Hedgecock has started on the third mural which will depict nursery rhymes. The murals improve considerably the appearance of the auditorium and afford pleasure and delight to the crippled children who are students in that school.

Dr. Robert U. Patterson, Dean of the School of Medicine will attend the meeting of the Association of American Medical Colleges at Richmond, Va., October 27th, 28th, 29th and 30th.

The 12th Annual Circus sponsored by the Hospitality Club was held at the Crippled Children's Hospital on Tuesday, October 7th, 1941.—H. A. Shoemaker, Assistant Dean.

Congress on Industrial Health To Meet January 12-13

Arrangements have been completed for the fourth annual Congress on Industrial Health, January 12-13, 1942, at the Palmer House in Chicago. The Congress, which is sponsored by the American Medical Association, is open to physicians and others interested in industrial health. There will be no registration fee.

Following the two-day session of the Congress, on January 14, field trips have been arranged for a limited number of physicians interested in details of industrial medical department administration. Also on January 14, a clinical program will be held in conjunction with the University of Illinois College of Medicine, illustrating practical problems in industrial medicine, industrial hygiene and traumatic surgery.

The opening session will include a talk on the "Procurement and Assignment of Physicians in Industry," which will be followed by the general program of talks on Tuberculosis in Industry. Two highlights of the afternoon session will be the talk of David J. Kaliski, M.D., New York, on "The Panel System in Workmen's Compensation Administration," and of Major Alfred A. de Lormimier, M.C., Washington, D. C., on "Mass X-Ray Surveys—Evaluation of the Technics and Equipment."

Also during the afternoon will be held a symposium on Undergraduate Industrial Medical Education, during which William D. Cutter, M.D., Chicago, will speak on "Present Problems in Curriculum Adjustment," and Milton H. Kronenberg, M.D., Chicago, will speak on "The Occupational Disease Clinic."

Other highlights in the program for the Congress include talks by Walter L. Bierring, M.D., Commissioner of the State of Iowa Department of Health, Des Moines, on "Postgraduate Education in Industrial Health;" Leverett D. Bristol, M.D., New York, on "Health Education for Industrial Workers;" and Myer S. Bloom, M.D., Binghamton, N. Y., on "Medical Service Plans for Small Industry."

REVIEWS and CORRESPONDENCE

PLASTIC SURGERY

Edited by George H. Kimball, M. D., F. A. C. S.
912 Medical Arts Building, Oklahoma City

"THE END-RESULTS OF THE TREATMENT OF MALIGNANT TUMORS OF THE PALATE." Gordon B. New, M.D., F.A.C.S., and O. Erik Hallberg, M.D. Rochester, Minnesota.

The author has reported his experience with malignant tumors of the palate over a period of 22 years. One hundred and seventy-three cases were malignant. Two hundred and thirty-six cases were benign. The average age of the patients was 50 years for males and 42 years for females.

"Treatment: Adenocarcinomas of the mixed tumor type are removed surgically when it is at all possible. At times, preliminary ligation of the external carotid is performed, and an incision is made in the palate down to the capsule of the tumor. The tumor is shelled out by blunt or finger dissection. Nitrous oxide-oxygen and ether may be administered intratracheally or pentothal sodium may be used intravenously to produce anesthesia. If the tumor is attached to the periosteum of the bones of the palate, the bone is cauterized with surgical diathermy. If the tumor has extended up into the nose or maxillary sinus, a very wide removal with surgical diathermy is necessary. Radium seeds or needles are used at the time of operation if it is questionable whether the entire tumor has been removed. Perforation of the palate or of the nasal fossa sometimes results. This is later closed with a dental plate. If the tumor is so extensive that complete removal seems impossible, radium seeds or needles are inserted into the neoplasm, sometimes at repeated stages a few months apart. Although this type of tumor is generally not radiosensitive, much may be accomplished with this type of treatment, particularly in cases in which the tumor recurs."

In all but one of the 76 cases the tumor was removed through the mouth. In this case the patient had a large mixed tumor of the palate and maxillary sinus, and resection of the superior maxilla was performed in 1913. He has had several local recurrences since then, but he is well at the present time, 27 years after first operation.

In the 76 cases, the lymph nodes of the neck were not removed unless metastasis was present. Few of these tumors metastasize. In 13 of the cases the lymph nodes of the neck were palpable at the time of the first examination. In four of the 13 cases the enlarged lymph nodes were removed. Microscopic examination of these revealed adenocarcinoma, grade 2 of the mixed tumor type.

In 25 percent of the 76 cases operation, irradiation, or both had been employed before the patients came to the clinic. In seven cases in which irradiation had been used alone before the patients came to the clinic, the tumors were so situated and fixed that they were considered inoperable; therefore, irradiation only was used at the clinic.

Results: The results of the treatment are shown in Table III. In nine cases in which there was no recurrence following excision the tumors, which were encapsulated, were shelled out without rupture. In 23 cases in which surgical diathermy was used as well as excision the bone was involved, and it was necessary to destroy

the periosteum or part of the bones of the palate or superior maxilla in order to remove the tumor. In the 14 cases in which surgical diathermy and irradiation were used the bone also was involved, and irradiation was used in addition to diathermy.

In the four cases in which enlarged lymph nodes in the neck were removed the duration of life was as follows: one year in one case, four years in one case, nine years in one case, and in the remaining case the patient is still alive, 32 years after operation. The large number of patients who lived five and ten years after treatment tends to prove that most tumors of this type have a low grade of malignancy.

Squamous Cell Epithelioma of the Palate

Primary squamous cell epitheliomas of the palate are infrequent. Because of the fact that in a case of very extensive involvement it is difficult to tell just where the tumor originated, only those cases in which we believe that the tumor started in the palate are included in this series. Tumors that secondarily involve the palate, that is, those that started in the gum, tonsil, pharynx, maxillary sinus, or cheeks, were not included in this group. From 1907 to 1939, inclusive, 84 cases of primary squamous cell epithelioma of the palate were observed at the clinic. During this time approximately 5,000 cases of malignant tumors of the buccal cavity were observed.

Forty percent of the 84 patients complained of soreness of the mouth. Twelve patients had trouble wearing their dental plates as the plate either did not fit or hurt them. The first symptom in two cases was enlarged cervical lymph nodes. One patient complained of bleeding from the mouth. In some cases the growth was found accidentally.

The average age of the patients was 58.2 years, and only 10.7 percent of the patients were women. The duration of the tumors varied from a few weeks to several years. Sometimes the presence of a thickened leucoplacia may have been noted for years, and then the growth became active and underwent ulceration.

In 50 percent of the cases the tumor was found in the soft palate, and in 25 cases it was situated in the hard palate alone. In five cases the mass was situated in the uvula and the adjacent part of the soft palate; in two cases the tumor was situated on the upper surface of the soft palate. In 26 or 30.9 percent, of the 84 cases the tumor had extended into the adjacent structures, that is, into the nose, nasopharynx, maxillary sinus, and pharynx.

The low grade tumors appear as grayish ulcerated lesions and sometimes are papillary. The more malignant lesions have soft, easily bleeding surfaces. Although the diagnosis in all cases must be made microscopically by using fresh frozen sections at the time of operation, usually it can be made by the appearance of the lesion.

Treatment: We believe that removing the local growth with surgical diathermy under anesthesia produced by the intratracheal administration of nitrous oxide-oxygen and ether or by the intravenous use of pentothal sodium offers the best chance of getting rid of the lesion. A large sequestrum usually follows the removal, and the greater part of the soft palate is lost. A dental plate is required to close the opening. Irradiation is administered directly into or over the involved region in cases in which the lesion is active.

Nine patients with palpable glands had gland dissection in addition to the treatment of the local lesion. They all showed involvement microscopically. Of these, six returned to the clinic for examination, and they

lived on an average of five and one half years after the initial treatment. Seventeen patients received radium, x-ray, or both. Five did not receive any treatment at the clinic, the lesion being too far advanced, but they had palliative x-ray at home.

Other Malignant Tumors

The malignant tumors other than the adenocarcinoma and squamous cell epithelioma that were encountered in the 173 cases are listed in Table I. The treatment of these tumors depends upon the activity of the growth. If the tumors are encapsulated, surgical removal is advisable. The use of diathermy and radium depends upon the extent of the lesion. Irradiation is also used externally.

Of the three patients who had melanoepithelioma and were treated with diathermy and radium, one lived four years after treatment, and the others, two years after treatment. In one of them the lesion was inoperable and palliative irradiation was used.

In four cases the patient had a fibrosarcoma. In three of the cases the tumor was removed surgically and the bone destroyed with surgical diathermy. In addition, one patient received radium treatment. Of these three patients, one had no recurrence in five years; one had none in ten years, and one had none in 20 years, respectively, after the initial treatment. The fourth patient had a very extensive involvement of the palate and a fibromyxosarcoma grade 4, involving lymph nodes. Radium was used as a palliative measure, but patient died one month later.

The patient who had a fibromyxosarcoma also had extensive involvement of the soft palate and of the lymph nodes in both cervical regions. This patient, a boy, aged 13 years, was treated with radium and x-rays but died two years later.

The patient with myxosarcoma of the palate, a girl, aged seven years, had had difficulty in swallowing for three weeks and swelling of lymph nodes of neck for two months. She died a month after treatment.

The patient with chondrosarcoma of the palate, a woman, aged 49 years, had had a tumor removed from her palate ten years before examination at the clinic. The tumor had recurred four years prior to her examination at the clinic, and two years before her examination a growth had caused bulging of the ala of the nose. At the time of her examination at the clinic, she had a huge hard growth that involved the entire palate and maxillary sinns and caused bulging of the right eye. Palliative roentgen therapy only was employed.

Of the three patients with lymphosarcoma, two were males and one was a female. Their ages were one year, 11 years, and 43 years, respectively. They all had palpable lymph nodes at the time of their examination. All received palliative roentgen therapy with some improvement, but they all died within 11 months, apparently of generalized metastasis.

Comment: Few men see such a large number of tumors of the palate in the course of their surgical practice. The author has given his observations and treatment of a large series of cases. He has used both surgery and radiation to an advantage. This article is according to type and sex. Also is listed the duration of symptoms.

Anyone interested in surgery about the month should avail himself of the information given out in this article.—George H. Kimball.

CARDIOLOGY

Edited by F. Redding Hood, M. D.
1200 North Walker, Oklahoma City

* Abstract of an article originally published in Medical Times, July, 1941.

Based upon Goldblatt's experimental production of hypertension in dogs through partial compression of the renal arteries, there is offered a new concept of the etiology of "essential" hypertension in human beings. In a series of more than 160 patients there was observed one common anatomic finding to which, so far, no attention had apparently been paid. In this series excretion urography with Diodrast revealed in all cases a kidney pelvis of the fetal type, i.e., an intrarenal pelvis which is almost completely surrounded by more or less unyielding renal tissue. In such kidneys very little pathology is necessary to fulfill all of Goldblatt's postulates for the production of renal ischemia and subsequent hypertension. When an intrarenal pelvis becomes obstructed at the ureteropelvic junction, which in these kidneys is within the hilum, such a pelvis conceivably acts like Goldblatt's clamp and by its expanding force exerts considerable pressure on the accompanying renal vessels.

The circulatory impairment produced by Goldblatt in his dogs is brought about in human beings with these atypical kidneys by the mechanism of gravity. Superimposed inflammation adds to the compression. In the purely "essential" type of hypertension, rest in bed, which reduces the compressive forces, often causes a drop in blood pressure. Failure to develop hypertension in some cases of intrarenal pelvis may be due to the presence of large extrahilar arteries. According to Hinman the kidneys are about 20 times more vascular than any other organ, and during each minute take up about one-third of the average cardiac output (Smith). Hence, any damage to the renal circulation will have a profound influence on the circulatory system as a whole. As observed by many, compression of the renal arteries causes hypertrophy of the arteriolar and other vessel walls outside the ischemic kidney, requiring greater pressure to force the blood through the kidneys; thus the modus operandi of the rise in blood pressure in these cases may be more or less wholly mechanical. The ballooning out of the intrarenal pelvis by an obstructive lesion or by infection at the ureteropelvic junction results in pressure on the neighboring renal vessels. Such a process is primarily involved in the etiology of this type of hypertension.

Excretion urography in patients with renal pathology unassociated with hypertension has usually disclosed the normal adult type of human pelvis, i.e., an extrarenal pelvis. When obstruction occurs in these cases, the hump of the pelvis which is outside the renal tissue, together with the ureter, acts as a cushion or shock absorber and shields the renal cortex and blood supply from excessive pressure. This accounts for the fact that numerous cases of pyelonephritis, hydronephrosis, pyonephrosis, nephrolithiasis and obstructing calculi are not accompanied by hypertension even in the late stages requiring nephrectomy. The back pressure is exerted principally on the free, unsupported mesial and upper borders of the renal pelvis. These sections yield or stretch and do not compress the renal arteries until late in the disease.

In a large proportion of the author's cases the presence of hypertension could be determined from urographic studies alone. Such studies are also of importance in the prognosis of surgical cases of hypertension due to renal lesions. If, as often happens, the patient has a bilateral intrarenal pelvis and unilateral nephrectomy is performed because of some pathological condition, any reduction in blood pressure is of more or less short duration, particularly if infection is present in the remaining kidney. However, should one side have an extrarenal pelvis and the other an intrarenal one, removal of the latter would produce a more permanent reduction in blood pressure. Conversely, if the pathology necessitating nephrectomy occurs on the side

of the extrarenal pelvis, and the kidney with the intrarenal pelvis is unaffected, the blood pressure remains normal until some pathologic condition develops in the remaining kidney. The diagnosis of an intrarenal pelvis, as a condition predisposing to hypertension, should be of particular interest to insurance examiners as well as to the family physician. Focal infections such as abscessed teeth, tonsillitis, endocervicitis, sinusitis, etc., which may cause renal infections, should be given greater consideration and perhaps eradicated early when they occur in individuals with an intrarenal pelvis. When obstruction or infection and resulting hypertension have already developed in a patient, decapsulation or other plastic operations at the kidney hilum may often improve an otherwise hopeless condition.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D., F. A. C. S.
605 N. W. 10th, Oklahoma City

"TIBIAL DEFECTS WITH NONUNION TREATED BY TRANSFERENCE OF THE FIBULA AND TIBIOFIBULAR FUSION." Henry W. Meyerding and James H. Cherry. *Amer. Jr. of Surg.* LII, 397, June, 1941.

The authors review the type of operation used first by Hahn in 1884, and later by Codivilla who devised the two-stage procedure used in this country by Huntington and Stone. Meyerding modified the procedure in certain cases by arthrodesis of the upper and lower tibiofibular joints, stating that the advantages are that the entire blood supply to the shaft of the fibula is left intact, that the surgical approaches are outside the field of infection, if present, and that if a tibial graft is used, the fixation and stabilization will be greater. Fifteen cases are reported, five being due to hematogenous osteomyelitis, nine to fractures, and one to a pathological fracture following osteomyelitis. Eight cases were treated by fibular osteotomy and transplantation by the Huntington method, three by tibiofibular fusion, and three by combined fusion and osteotomy, with a fibular graft used in the same leg in one case. In five cases, recurrent drainage occurred, and in three, temporary peroneal nerve palsy resulted. The table of results indicates good results and the technique is clearly discussed. Weight-bearing should not be attempted until from six months to a year after the second stage of the operative procedure, and then with adequate support until the clinical and roentgenographic evidences of union are adequate for weight-bearing in each case. Good results were obtained in 13 of the 15 cases reported.

"GUIDE FOR INTERNAL FIXATION OF INTRACAPSULAR AND INTERTROCHANTERIC FRACTURES OF THE FEMUR." I. W. Kaplan. *Amer. Jr. of Surg.* LII, 443, June, 1941.

Mechanically, the guide consists of a metal frame with V-shaped ends, notched at the bottom. One end is held at the junction of the shaft and the femur and the greater trochanter by the notched ends and the other below the shaft of the femur. A handle is used to hold the guide and indicate thus the horizontal plane. The director is a square piece of metal between the two V's and guides the wire or drill. It is set on a pivot which can be adjusted at any angle, and set by a screw on its undersurface. The director is equipped with three openings so that double screws or a single wire may be used. The top half can be removed if two screws are used. An angle guide is used, and for most cases is set at 127 degrees, and 20 degrees of internal rotation allows for horizontal-plane adjustment of the device. This procedure has been employed in 38 cases, and operative time has been reduced to from 35 to 40 minutes.

"CARTILAGE TUMOR OF THE SHAFT OF THE ULNA." T. Vibert Pearce and Douglas H. Collins. *British Jr. of Surg.* XXVIII, 432, Jan., 1941.

This is a case report of a cartilaginous tumor of the shaft of the ulna, appearing in a boy of 16, apparently after being hit by a cricket ball. The lump was noticed the same day that the trauma occurred, but there was "no bruising" of the arm. He applied for treatment two months later because of pain in the forearm, difficulty in writing, and limitation in pronation of the wrist.

A roentgenogram showed "a rarefied tumor expanding the cortex of the ulnar shaft on its dorsolateral aspect." On admission for operation six weeks later, there had been a marked increase in size of the tumor. The tumor was separated from the extensors of the thumb, outlined above and below by saw cuts, and removed with a chisel.

The tumor was partly covered by cortical bone with normal bone lying between it and the medulla, and was composed by adult cartilage in the deep layer, a small zone of foetal type of cartilage, a zone of myxomatous connective tissue, and finally a segment of collagenous fibrous tissue. Microscopically, no mitosis were seen. It was considered that this was a benign tumor beginning to show malignant changes.

Normal function was gained, and three years later there was no recurrence.—Earl D. McBride.

UROLOGY

Edited by D. W. Branham, M. D.
502 Medical Arts Building, Oklahoma City

"PERINEPHRIC ABSCESS WITH A REVIEW OF 117 CASES." Donald W. Atcheson, M.D., *Journal of Urology*, August, 1941.

The author has studied perinephric abscess from his hospital files and his excellent article details in full the statistical and clinical aspects of the lesion.

His conclusions are: Perinephric abscess may present a variety of clinical pictures and should always be considered in cases of prolonged fever.

In most cases a pyogenic lesion occurs in the renal parenchyma before the perirenal space is involved. The secondary involvement of the perinephric space may occur by direct rupture of the abscess or may follow the veins and lymphatics between the kidney and the space.

There are two main groups of lesions which precede the kidney lesion: (1) distant foci of infection such as furuncles, etc.; and (2) chronic diseases of the kidney itself, such as calculi or pyonephrosis.

These abscesses occur most commonly in males between the ages of 25 and 45 years.

The onset is usually prolonged and the diagnosis is seldom made before the patient has had symptoms from five to six weeks.

Positive x-rays are becoming more important in making the diagnosis, but too much emphasis should not be placed on negative films.

Practically all patients have pain, costo-vertebral tenderness, fever, and leukocytosis, but in a great many cases some of the commonly stressed findings such as psoas spasm, flexion of the hip, and changes in the urine will not be present.

The postoperative course is prolonged and coupled with a high mortality rate.

The only treatment is incision and drainage with postoperative supportive measures. It is best not to close the wound too tightly, and in certain types of cases, a counter incision in the lower abdominal wall will facilitate recovery.

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The Council verifies the composition and analysis of products, and substantiates the claims of manufacturers. By standardizing nomenclature and disapproving therapeutically suggestive trade names, it discovers shotgun therapy and self medication. It is the only body representing the medical profession that checks inaccurate and unwarranted claims on circulars and advertising as well as on packages and labels.

Squibb Rounds Out Anti-anemia Products With Capsules Ferrous Sulfate with B1

To supplement their line of products for the use in the treatment of anemia, E. R. Squibb and Sons, New York, have introduced Capsules Ferrous Sulfate with B1. Each capsule contains three grains ferrous sulfate exsiccated (approximately 60 mg. iron) together with one mg. pure crystalline thiamine hydrochloride (333 U. S. P. XI units vitamin B1).

Capsules Ferrous Sulfate with B1 Squibb are designed for oral administration in the prophylaxis and treatment of secondary anemia, especially where the addition of vitamin B1 is considered desirable, as during pregnancy and laceration, infancy and childhood, and in patients with anorexia associated with thiamine lack. They may also be useful as a supplement to liver therapy in the treatment of pernicious anemia when an iron deficiency also exists.

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Capsules Ferrous Sulfate with B1 Squibb are supplied in bottles of 100 and 1,000.



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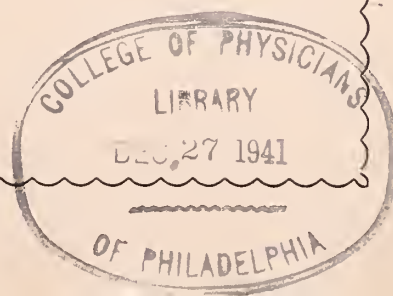
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